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Nils Herger, Christos Kotsogiannis and Steve McCorriston

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INTERNATIONAL TAXATION AND FDI STRATEGIES: EVIDENCE FROM US CROSS-BORDER ACQUISITIONS

by

Nils Herger[†], Christos Kotsogiannis^{‡,a} and Steve McCorriston[‡]

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Abstract: While there is a well-established body of empirical research documenting the negative effect of taxation on foreign direct investment (FDI), there is scant evidence on the extent to which international tax considerations (double taxation, international tax relief stipulated in bilateral tax treaties and the effect of withholding taxes) affect the role of taxation for FDI, and how tax issues differ according to the investment strategies—‘horizontal’ and ‘vertical’—pursued by multinational firms. This paper addresses these issues. Using data on US acquisitions over the period 1995-2005 in 18 OECD countries, it is shown that international tax relief plays a critical role in determining the impact of taxation. Regardless of the type of investment strategy, the significantly negative effect of corporate taxes disappears when accounting for the tax credits stipulated in bilateral tax treaties. It is also shown that there is considerable heterogeneity of the impact of sales taxes across investment strategies. High administrative burden to comply with taxation always reduces a country’s appeal as target for FDI.

JEL classification: F15, F21, F23, F33

Keywords: Corporate taxation; Cross-Border acquisitions; FDI strategies; Tax treaties; Tax credits

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[†]Study Center Gerzensee, Dorfstrasse 2, P.O. Box 21, 3115 Gerzensee, Switzerland. E-mail: nils.herger@szgerzensee.ch

[‡]Department of Economics, University of Exeter Business School, Streatham Court, Rennes Drive, Exeter EX4 4PU, England, UK. E-mail: c.kotsogiannis@exeter.ac.uk (Kotsogiannis), s.mccorriston@exeter.ac.uk (McCorriston).

^aCESIfo, Munich, Germany.

1 Introduction

Though there is a broadly shared view that taxes reduce the desire of multinational firms to undertake foreign direct investment (FDI), there is substantial variation in the estimates of the corresponding tax elasticities. For example, for taxes levied directly on corporate profits, elasticities between 0 to -5 percent have been found (see De Mooij and Ederveen (2003) for an overview). Such variation reflects differences in measuring the tax burden on the multinational firm including the distinction between statutory and effective tax rates (see, among others, Devereux *et al.*, 2002) or different forms of investment (Auerbach and Hassett (1993), Swenson (2001), and Mutti and Grubert (2004)). Further issues on the impact of taxes on FDI relate to the role of indirect (non-profit) taxes such as sales or labor taxes (Desai and Hines, 2004) and the overall complexity of the tax system (Djankov *et al.*, 2010). This paper contributes to the empirical literature on FDI and taxation by considering two issues that have, surprisingly, received limited attention in the literature: Firstly, is the treatment of income (for tax purposes) earned by multinational firms in the foreign (in the form of international tax relief stipulated in bilateral tax treaties and the effect of withholding taxes when multinational firms want to locate economic activities abroad) and, secondly, and perhaps more importantly, is the explicit recognition that different investment strategies motivate multinational integration.

Regarding the latter issue, the existing literature (explicitly or implicitly) restricts attention to horizontal FDI; see, for example, Devereux and Griffith (1998), Behrens and Picard (2008), and Davies *et al.* (2007). Notable exception to this is the contribution of Mutti and Grubert (2004) who recognize that taxation might have a differential impact on FDI depending on whether the investment is embedded in a ‘horizontal’ strategy (meaning that the multinational firms seek market access by replicating production facilities abroad) or a ‘vertical’ strategy (in the sense of fragmenting the supply chain to outsource production stages abroad). While this distinction is often assumed to be related to FDI between developed countries (typically horizontal FDI) and between developed and developing countries (vertical FDI), Alfaro and Charlton (2009) have shown that a large part of vertical FDI typically arises between developed countries. We also observe this in the data used in this paper. As regards taxation, the important aspect of distinguishing between different FDI strategies is that the motives for establishing a subsidiary plant differ; by extension, the role of taxes may also differ. For example, since the motive for horizontal FDI is to sell goods locally, sales taxes might matter. Conversely, vertical FDI is motivated by the desire to access certain factor endowments to lower the production cost of a final good that is typically sold elsewhere. Local sales taxes are less likely to matter in this case.

Our results have been estimated with data on cross-border acquisitions (CBAs) by US firms for the 1995-2005 period (CBAs are the dominant form to integrate foreign subsidiaries and account for around 90 percent of FDI between developed countries).¹ The identification of horizontal and vertical deals requires dis-aggregated data of the industry segments of US firms involved as acquirer and the corresponding industry segments of the target firms abroad. We subsequently match these acquirer and target industry segments with a measure of vertical relatedness arising from US input:output tables to identify whether or not the firms involved in an acquisition are connected through the supply chain. Separating horizontal from vertical strategies allows us to address whether taxation across alternative location choices has a differential impact across these alternative strategies. Within our sample, we show indeed that (a) US FDI to 18 other OECD countries involves a mix of both horizontal and vertical strategies, and (b) the effect of taxation has a substantially differential impact on the two alternative FDI strategies.

It is shown that, in line with previous results, corporate taxation measured in terms of statutory or effective average rates deters US acquisitions in a significant manner. Corporate profit taxes in the host country, however, are shown not to significantly deter CBAs when accounting for the international tax relief stipulated in the bilateral treaties with the 18 host countries in our sample. Other tax dimensions matter: sales taxes and the overall administrative burden of conforming to tax procedures do have a significantly negative effect on the decision to take over firms in specific countries, though labor taxes do not. Notably, a differential effect arises with sales taxes in the sense that they matter for horizontal, but not for vertical FDI, a result that can be attributed to the fact that when vertically integrated plants produce intermediate goods that are exported, they are exempted from local sales taxes.

To estimate the degree with which taxation affects the desire of US firms to acquire a foreign subsidiary, our econometric strategy involves the use of Poisson count and conditional logit regressions. While the conditional logit models and Poisson count regressions yield identical coefficient estimates (Guimaraes *et al.*, 2003), the corresponding elasticities differ (Schmidheiny and Brülhart, 2011). One of the advantages of the conditional logit estimates is that we can derive tax elasticities by host country. Against this background, we find direct tax elasticities slightly below -1 percent when using statutory tax rates and even lower values of around -0.5 percent with effective average tax rates. The host country specific elasticities indicate variation across countries, with the highest tax elasticities to

¹Recent studies on the impact of corporate taxes have focussed on CBAs. Becker and Fuest (2008, 2010) look at the theoretical aspects of the distinction between greenfield FDI and international acquisitions. Tying with the above observation that treatment of double taxation matters, Huizinga and Voget (2009a) show that accounting for double taxation is an important empirical determinant of CBAs.

attract US CBAs accruing to Canada, Germany, France and the UK. With reference to indirect taxes, sales taxes have an elasticity of around -0.15 percent, whilst the elasticity of the administrative tax burden is around -0.5 percent. While there is little difference in the tax elasticities contingent on horizontal or vertical CBAs, the sales tax elasticity is confined to deterring horizontal but not vertical FDI.

The paper is organized as follows. Section 2 provides more details on the literature on which this paper builds. Section 3 addresses issues regarding the relevant tax measure for the multinational firm accounting for the role of bilateral tax treaties and tax credits. Section 4 outlines the methodology for identifying alternative motives for foreign acquisitions highlighting the distinction between horizontal and vertical FDI strategies. Section 5 presents the econometric framework and addresses issues relating to the control variables determining a firm's decision to acquire affiliates in foreign countries. Section 6 reports the results and Section 7 concludes.

2 Related literature

Despite of the growth of FDI over recent decades, there is only a small literature considering the effect of taxing the same income in different countries and the degree with which bilateral treaties offer relief from such double taxation. For the US, Blonigen and Davis (2004) suggest that FDI is significantly higher when foreign countries have a double income tax treaty. More recently, Huizinga and Voget (2009a) consider the differences between countries applying a worldwide and an exemption-based tax system to calculate the double-tax rate and the role of withholding tax rates agreed in tax treaties; they find that this reduces the likelihood of parent firm location in a given country. Though our methodology to calculate tax rates on foreign income earned by the multinational firm (see Section 3) will be similar to that of Huizinga and Voget (2009a), we focus more directly on the potential effects of international tax treatment on the estimated tax elasticities. The econometric strategy also allows us to derive these effects by host country.

The literature on FDI assigns typically two motives for firms controlling a subsidiary abroad: horizontal FDI, whereby firms seek to access markets by replicating production facilities overseas, and vertical FDI, whereby firms fragment the production process. Markusen (2002) provides a comprehensive account of this and embeds the horizontal and vertical investment strategies in a unified framework. Reflecting the different motives, horizontal and vertical FDI should emerge, respectively, between developed and developing countries.² Some doubt concerning the dominance of horizontal FDI between developed

²There is a parallel literature on FDI flows that aims to test in an indirect manner whether FDI is

countries has been recently raised by Alfaro and Charlton (2009). Their main contribution is to directly measure vertical relatedness between affiliate activity and the parent company. They show that a large part of FDI between developed countries is actually vertical in nature with a large proportion of this being intra-industry (e.g. within broad industry aggregates). To question the assumption that FDI flows between developed countries are principally horizontal in nature, the crucial aspect is the identification of vertical relatedness from the value flows within supply chains as reported in input:output tables. In the determination of acquisition strategies outlined in Section 4, our methodology is similar to that of Alfaro and Charlton (2009).

As noted above, regarding the effect of taxation on FDI, the only paper that has explicitly addressed the horizontal/vertical distinction is by Mutti and Grubert (2004) who argue, and confirm with empirical evidence, that the effect of direct corporate taxes will be asymmetric and contingent on the underlying investment strategy. In particular, they conjecture that taxes will have no effect on horizontal FDI, since the corresponding affiliates will be on the same footing as domestic firms in the host country. Conversely, high taxes on vertical FDI will place a subsidiary at a disadvantage, since it will be competing with firms in the source country that have not invested abroad. However, apart from the lack of account for other features of taxes and the treatment of tax credits, Mutti and Grubert (2004) also have no direct measure of vertical FDI. Still, the main merit of the Mutti and Grubert paper is to tie with the focus of the international economics literature that multinational firms pursue different strategies and that this may impact on the effect of taxes.

In terms of measuring the corporate tax burden, early studies draw on statutory rates. Though the corresponding data are readily available for a large number of countries, the rates stipulated in the tax code are not necessarily appropriate when it comes to the market entry decisions that manifest in the acquisition of a foreign firm. Rather, the effective average tax rate (EATR) that measures the net present value of tax payments as a proportion of the net present value of pre-tax capital income taking into account the capital depreciation and tax allowances, captures the long term implications of FDI projects (see Devereux and Griffiths (1998) Devereux *et al.* (2002), and Buettner and Ruf (2007)). Related to the EATR is the effective marginal tax rate (EMTR) which measures the proportionate difference in post- and pre-tax rates of return. This should matter more for incremental investments in foreign firms rather than the entry decisions when taking over control by means of a CBA.

principally horizontal or vertical in nature. This involves testing which variables in determining FDI are consistent with the theoretical framework (see e.g., Carr *et al.*, 2001; Braconier *et al.*, 2005). But this is pursued without explicitly identifying the form of investment, horizontal or vertical.

In the context of the issues highlighted by Desai and Hines (2004) that non-profit taxes matter, the effects may also potentially vary across horizontal and vertical investment strategies. Of particular note here is that sales taxes may reduce returns from distributing goods abroad, but this might not be the case with vertical FDI where the sales tax can be waived when the intermediate product is exported. Therefore, we would expect that a sales tax has a differential effect across the alternative strategies, most notably that the effect is weaker on vertical FDI.

3 International taxation and tax relief

To gauge the degree with which taxation affects FDI decisions, consideration of international double taxation issues is required. Since the focus of this paper is on CBAs by US multinationals, the worldwide tax system is relevant where the obligation to pay domestic taxes arises even when profits were earned abroad. Consideration of the impact of withholding taxes when profits are repatriated is also required.³

To reduce the double tax burden, the US has signed a large number of bilateral tax treaties (including with all 18 countries in our sample). The substance of these treaties restricts the maximum rate of withholding taxes and details the possibilities for double tax relief in terms of credits US firms can earn on taxes paid abroad. Denoting the corporate tax rate in the US and foreign country j by, respectively, τ_{us} and τ_j and the corresponding withholding rate when repatriating foreign after-tax profits $(1 - \tau_j)$ back to the US by $\varpi_{j,us}$ as well as taking into account tax credits c_j , the international total tax rate levied on a US multinational firm acquiring a foreign subsidiary is given by

$$\tau_{int} = \tau_{us} + \tau_j + (1 - \tau_j)\varpi_{j,us} - c_j. \quad (1)$$

Since the US applies an indirect tax credit regime, withholding taxes and corporate taxes are, in principle, both creditable. However, the maximum amount of tax credits is restricted to the tax burden that would accrue to the same income in the US. This is to avoid negative tax liabilities. Therefore, tax credits depend on whether country j has relatively higher or lower taxes than the US, that is

$$c_{ijt} = \begin{cases} \tau_{us} & \text{if } \tau_j + (1 - \tau_j)\varpi_{j,us} - c_j \geq \tau_{us} \\ \tau_j + (1 - \tau_j)\varpi_{j,us} & \text{if } \tau_j + (1 - \tau_j)\varpi_{j,us} - c_j < \tau_{us}. \end{cases} \quad (2)$$

(1) and (2) combined determine the relevant corporate tax burden on a US multinational

³For a discussion of these issues see Huzinga and Voget (2009a).

investing abroad, that is

$$\tau_{int} = \begin{cases} \tau_j + (1 - \tau_j)\varpi_{j,us} & \text{Foreign tax burden higher than US} \\ \tau_{us} & \text{Foreign tax burden lower than US.} \end{cases} \quad (3)$$

Further to the discussion above, τ_{us} and τ_j can be measured with a statutory rate or an EATR when confronting (3) with the data.

Under a worldwide tax system, issues of international double taxation arise when foreign profits are repatriated to the home country. The possibility to defer this decision, and hence postpone paying withholding taxes $\varpi_{j,us}$, modifies the tax burden on FDI. For the case of the US as parent country, the repatriation of profits can only be deferred when τ_j (expressed as statutory rate) is at least 90 percent of τ_{us} (Huizinga and Voget, 2009b, p.8). Therefore, calculating the tax burden on a US multinational deferring the repatriation of foreign profits is given by

$$\tau_{int}^{def} = \begin{cases} \tau_j & \text{Foreign tax burden higher than 90\% of US} \\ \tau_{us} & \text{Foreign tax burden less than 90\% of US.} \end{cases} \quad (4)$$

This implies that the US tax rate has to be paid in countries whose taxes are below 90 percent of the corresponding US rate whilst in other cases local taxes (but no withholding taxes) have to be paid when profits are retained in the foreign country j .

As discussed above, other taxes than those directly levied on corporate profits might matter for a multinational firm. To this end, we also consider the role of sales taxes and labor taxes. Finally, to capture the implications of tax compliance that may vary across countries, we include a variable that reflects the administrative tax burden. This measure reflects the time normally required to comply with taxes in the host country.

Table 1 provides an overview of the tax data. For the year 2005, columns 1 to 3 contain, respectively, the statutory rate, the effective average and marginal rate of corporate profit taxes. Detailed data for this is reported by the Institute of Fiscal Studies for 18 countries up to the year 2005. Columns 4 to 7 report the international tax adjusted rate of (3) whereby the statutory rate (columns 4 and 5) and the EATR (columns 6 and 7) has been used. Columns 5 and 7 account for withholding taxes.⁴ Note that adjusting for international tax relief reduces the dispersion of the tax burden between countries since,

⁴The internet appendix to Huizinga and Voget (2009a) contains an international overview of withholding tax rates for the year 2004. For the US, we have expanded this to the 1995 to 2005 period by consulting US double income tax treaties as published by the Inland Revenue Service (IRS) at www.irs.gov/businesses/international. In accordance with Huizinga and Voget (2009a), we assume that profits are repatriated as dividend payments.

under the worldwide tax system, rates cannot be lower than in the US whilst tax credits mitigate against the double tax burden. Furthermore, the withholding tax rates reported in column 8 are relatively low. As regards other tax dimensions, the IMF was the source for the sales tax data of column 9, labor taxes in column 10 are published in the Prices and Earnings Survey of UBS, and the data on the administrative tax burden in column 11 is taken from Djankov *et al.* (2010).

Table 1 about here.

4 Determining horizontal and vertical FDI

To investigate the impact of taxation on different FDI strategies, we face the challenge of distinguishing CBAs between horizontally and vertically related firms. Driven by the availability of detailed tax data, we focus on US firms undertaking mergers and acquisitions with foreign targets located in 18 OECD countries (Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom) which were host to almost 9,000 deals during the 1995-2005 period. Reflecting the concentration of FDI in the developing world, these 18 OECD countries accounted for 73 percent of the total number of US acquisitions overseas. The data is sourced from SDC Platinum of Thomson Financial which claims to record all mergers and acquisitions since 1990.⁵ In particular, we have extracted all deals where a US multinational acquired at least a 51 percent stake in the foreign firm to reflect the ownership aspect of FDI (this includes funding from either within the host country or the US).

For each deal, SDC Platinum reports standard industry classification (SIC) codes of the US acquirer and foreign target firm at the 4-digit level denoted here by, respectively, SIC_a and SIC_b . In principle, this should allow one to infer the industrial relationship between the merging firms. In particular, when $SIC_a = SIC_b$ an acquisition involves firms operating in the same industry defined at a suitably disaggregated level, a typical feature of horizontal integration where multinational firms replicate the production of goods and services in several countries.

However, in tying down vertical acquisitions, it is not sufficient to observe that the SIC codes of the acquiring and target firms differ; one also needs a direct measure of vertical relatedness that will explicitly identify the potential links within the supply chain, again determined at a suitably disaggregated level. To address this issue, we draw on the

⁵SDC data has been used in other studies including Di Giovanni (2005), Herger *et al.* (2008), and Hijzen *et al.* (2008).

methodology of Fan and Lang (2000) and Fan and Goyal (2006). The essence of this is to derive measures of vertical relatedness from the input:output structure of commodity flows between around 500 intermediate industries using US accounts. This methodology is similar to that applied by Alfaro and Charlton (2009).⁶ Specifically, for every pair of industries, SIC_a and SIC_b , the input:output tables report the value of sales that occurs between them which permits to calculate the dollar value of SIC_a required to produce a dollar's worth of SIC_b in the US. The higher this measure, denoted as a vertical relatedness coefficient V_{ab} , the greater the degree with which the corresponding industries are linked through the supply chain. By defining a benchmark value \bar{V} , it is then possible to identify deals between firms operating in industries with $V_{ab} > \bar{V}$ that are deemed to be vertically related. Following Alfaro and Charlton (2009) and Acemoglu *et al.* (2009), a value of 5 percent and 10 percent is used for \bar{V} .

One potential issue in matching SIC codes is that firms often operate in several industries; the SDC database reports up to 6 different SIC codes for both acquiring and target firms. Multi-business activity arises in particular with multinational firms, which tend to be large and already highly-diversified.⁷ In our sample, acquirers are more diversified than targets, with the acquiring firm reporting, on average, activities in 3.2 industries (or 4-digit SIC codes) whilst the average target firm operates only in 1.7 industries. To reflect the prevalence of diversified multinational firms, we analyze the horizontal and vertical relatedness between acquirer and target firm across every potential pair of industries in which they operate. In particular, for each CBA, the up to 6 industries of the acquiring firm are indexed by $r \in 1, 2, 3, 4, 5, 6$ and the industries of the target firm by $s \in 1, 2, 3, 4, 5, 6$. There are up to 36 pairs. Whether these are horizontally, that is $SIC_a^r = SIC_b^s$, or vertically, that is $V_{ab}^{rs} > \bar{V}$, related, gives rise to the following classification of alternative FDI strategies:

- (i.) 'Pure horizontal' acquisitions between acquiring and target firms sharing at least one combination of 4-digit SIC codes, but are vertically unrelated in any of the 36 possible combinations of SIC_a^r and SIC_b^s ; and
- (ii.) 'Pure vertical' acquisitions between acquiring and target firms related in at least one combination of industries through the supply chain, but have no common industry codes for across the (up to) 36 combinations of SIC_a^r and SIC_b^s codes.

Table 2 formalizes the definition of the alternative strategies of FDI/CBAs.⁸

⁶It is also similar to that applied by Acemoglu *et al.* (2009) in addressing the factors that determine vertical integration.

⁷See, for example, Denis *et al.* (2002) who, from a sample of more than 44,000 US corporations during the 1984-1995 period, show that global and industrial diversification are highly intertwined.

⁸In a relatively small number of cases, the classification produces less clear outcomes. For example,

Table 2 about here.

The distribution of the 8,892 US cross-border acquisitions between 1995 and 2005 to 18 OECD countries in our data set appears in Table 3. Column 1 shows that the UK, Canada, and Germany were the main hosts accounting for almost 60 percent of all deals.

Table 3 about here.

Using the methodology reported in Table 2, the alternative investment strategies characterizing these CBAs are reported in columns 2 to 5 of Table 3. Of the total number of acquisitions, close to 50 percent of all deals are classified as purely horizontal or vertical. Using the 5 percent benchmark for \bar{V} , 17 percent are classified as ‘pure’ horizontal and 32 percent as ‘pure’ vertical. With the 10 percent benchmark employed (which raises the threshold in terms of the degree of vertical relatedness between industrial activities), around 38 percent are classified as ‘pure’ horizontal and 9 percent as ‘pure’ vertical acquisitions. This observation concurs with the findings of Alfaro and Charlton (2009) that, even between developed countries, a considerable proportion of international acquisitions is driven by vertical investment strategies. These classifications form the basis for determining the impact of taxes on horizontal and vertical FDI/CBAs.

5 Econometric strategy

5.1 Theoretical background

Since CBAs provide today by far the most common form of FDI, deals—that are henceforth indexed by i —between acquirer and target firms offer a comprehensive source to study the effect of taxation upon the location decision of multinational firms. The desire to integrate a foreign subsidiary rests on the opportunity to generate a discounted future income stream, denoted by R , in host country j across years t and, thus, earn an expected profit of

$$\pi_{ijt}^* = (1 - \tau_{jt}^d)R(x_{jt}, \tau_{jt}^o, \delta_t, \delta_i), \quad (5)$$

whose value depends, in turn, on several factors.⁹ In particular, as discussed at the outset, firms are thought to be reluctant to invest in the face of high tax rates τ_{jt}^d levied directly on corporate profits, but also other forms of taxation τ_{jt}^o accruing e.g., to the value-added

acquisitions involving firms in the same *SIC* also pass the measure of vertical relatedness. To avoid ambiguities, and produce a close concurrence with the theoretical literature on the strategies of the multinational firm, the analysis will focus on acquisitions that are ‘purely’ horizontal or vertical according to the definition of Table 2.

⁹See, among others, Devereux and Griffith (1998) and Markusen (2002) for similar specifications to modeling the profits of multinational firms.

component of R (Desai and Hines, 2004) or appearing in the form of an administrative burden to comply with taxation (Djankov *et al.*, 2010). Further to the discussion of Section 3, when analyzing the location decisions of multinational firms, the role of international tax relief needs to be taken into account. Non-tax factors that are specific to a country and year are summarized in x_{jt} . Year specific components δ_t absorb global developments within the international market for corporate control that drive e.g., the observed wave-like pattern in international merger activity (see Di Giovanni, 2005). Finally, the specific circumstances of a potential deal δ_i include components such as the deal value and the expected synergies between the merging companies that have a straightforward effect on profit opportunities.

5.2 Regression equation and control variables

Our sample with 8,892 CBAs by US multinationals, with target firms in 18 host countries during the 1995 to 2005 period, is used to estimate the degree with which taxation affects the profit opportunities in equation (5) and, in turn, the desire to locate economic activities abroad. Across deals i , profits are thought to differ systematically between alternative host countries j and years t . Summarizing the tax-related variables with τ_{jt} and log-linearizing equation (5) yields the regression equation

$$\begin{aligned} \pi_{ijt} = \tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma + \delta_t + \delta_i + \epsilon_{ijt} \quad & \text{with } i = 1, \dots, N \\ & j = 1, \dots, J \\ & t = 1, \dots, T, \end{aligned} \tag{6}$$

where $\tilde{x}_{jt} \equiv \ln(x_{jt})$, $\tilde{\tau}_{jt} \equiv \ln(\tau_{jt})$, β and γ are coefficients to be estimated, and ϵ_{ijt} is a deal-specific error term. The year and time-specific components δ_t and δ_i enter equation (6) in an additive manner.

To isolate the impact of taxes, the set of control variables \tilde{x}_{jt} accounts for the established factors to explain FDI including market size, labor and trade cost, exchange rates, and various indicators relating to the openness of a country to foreign investment and the extent of regulatory constraints and institutional quality in the host country. In particular, profit opportunities are expected to be higher in larger markets. This is measured by real GDP in the host country, which is anticipated to enter with a positive sign. Higher wage costs are expected to have a negative effect on the decision to locate in any specific country. Owing to the separate inclusion of labor taxes, a measure for net wages in the host country is used. Even with low wages, multinational firms may be reluctant to enter foreign markets with strict regulation to hire or layoff workers. This is proxied by an index on Labor Market Freedom. Variables that represent trade costs are given by

the distance between the US and the host as well as a variable (Trade Freedom) that captures the absence of tariff and non-tariff barriers to trade in the host country. For the multinational firm, this will matter when intermediate goods provide inputs for foreign subsidiaries or given that exports (subject to trade costs) can be used as an alternative strategy to establishing a local plant when serving a foreign market.

Other factors which influence the openness of the country to FDI are given by Investment Freedom, an index measuring whether the government treats foreign firms in the same way as domestic investors, whether specific industries are closed to investment, whether governments impose restrictions on capital transactions and transfers—the expected effect of this variable is positive. Furthermore, the variable Regulatory Burden proxies the extent of government interventions affecting businesses in the host country—the expected effect is negative. Corruption is known to act as a potential deterrent to FDI (a point emphasized by, among others, Wei (2000)) with the expected effect being negative. Finally, financial factors are also a likely determinant of FDI and foreign acquisitions specifically. Following Froot and Stein (1991) and Blonigen (1997), the value of the US dollar is expected to have a negative effect suggesting that an appreciation of the exchange rate will likely increase CBAs from the host country. This is measured as the real exchange rate between the US dollar and the host country currency. Detailed definitions and data sources for each of the variables are reported in the data appendix. Table 4 reports the key summary statistics for the data set.

Table 4 about here.

5.3 Estimation: Conditional logit model or fixed effects Poisson count regression?

Equation (6) forms the basis for our empirical strategy. However, for several reasons, it is often problematic to employ profits π_{ijt} directly as dependent variable. In particular, a missing data problem arises since only profits can be observed for countries j that were actually chosen as host for deal i . Observations for potential alternatives j' are latent. Furthermore, even the observed profits represent an accounting value that is subject to the degree with which undisclosed reserves are created, capital is assumed to depreciate, or practices of transfer pricing are used to lower the tax burden (compare Desai *et al.*, 2006). Finally, for more than 50 percent of deals reported in SDC Platinum, the deal value is not disclosed (Di Giovanni (2005), p.134) making it impossible to establish π_{ijt} for a comprehensive set of CBAs.

To avoid the issues associated with profit data, we follow a growing literature (e.g., Devereux and Griffith (1998), Buettner and Ruf (2007)) exploiting the fact that observed

merger deals encapsulate a market entry decision that identifies the country with the highest expected profit opportunity, that is

$$h_{ijt} = \begin{cases} 1 & \pi_{ijt}^* > \pi_{ij't}^* \quad \forall j' \neq j \\ 0 & \text{otherwise,} \end{cases} \quad (7)$$

where j' denotes alternative hosts where a firm could, in principle, also have made an acquisition. Based on the discrete decision h_{ijt} , taxes that matter for the multinational firm can be connected with the empirically observed market entry (or location) choice. Econometric models that are capable to handle such choices include the conditional logit model, where h_{ijt} is used directly as dependent variable, and the Poisson count regression, where observed market entry decisions are aggregated into the number $n_{jt} = \sum_i h_{ijt}$ of CBA deals with country j during year t . The conditional logit model has mainly been used for analyzing the distribution and growth of FDI at the sub-national (or regional) level.¹⁰ Count regression have only recently appeared in the FDI literature in terms of uncovering the determinants of the number of CBAs between countries (Hijzen *et al.*, 2008; Herger *et al.*, 2008). Though these econometric approaches have largely been treated separately, Guimaraes *et al.* (2003) have shown that they are closely intertwined in the sense of yielding numerically identical coefficients. This applies also to panel data with fixed effects estimation; the relevant case here since we observe 18 groups of countries across 11 subsequent years.

Conditional logit models¹¹ exploit the fact that a multinational firm wants to invest in the host country offering the highest expected profit opportunity. Following McFadden (1974), the assumption that the stochastic component ϵ_{ijt} of (6) is independently and identically distributed with a type I extreme value distribution implies that the probability that a firm acquires a target in country j during year t is given by

$$P_{ijt} = P_{jt} = \frac{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{\sum_{j=1}^J \sum_{t=1}^T \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}. \quad (8)$$

Owing to the exponential nature of (8), the components δ_i and δ_t pertaining, respectively, to individual deals and years drop out. Thus, only variables such as taxes that differ across alternative host countries j affect the location choice embodied in each merger and acquisition deal. The joint distribution over all deals i , the 18 different host countries j , and 11 years t under consideration enter the log likelihood function $\ln L_{cl} =$

¹⁰Kim *et al.* (2003), Crozet *et al.* (2004), and Devereux *et al.* (2007) are recent examples for this.

¹¹Note that sometimes the generic term multinomial logit model is used for this. Here, we follow Greene (2008, ch. 23.11) and employ the ‘conditional logit model’ for a scenario where the regressors vary across the different alternatives j .

$\sum_{i=1}^N \sum_{j=1}^J \sum_{t=1}^T \ln(P_{ijt})$. The symmetric treatment of individual acquisition deals implies that $P_{ijt} = P_{jt}$, implying that n_{jt} can be factored out and thus $L_{cl} = \sum_{j=1}^J \sum_{t=1}^T n_{jt} P_{jt}$. Making use of (8) it is the case that

$$\ln L_{cl} = \sum_{t=1}^T \sum_{j=1}^J n_{jt} (\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) - \sum_{t=1}^T \sum_{j=1}^J \left[n_{jt} \ln \left(\sum_{t=1}^T \sum_{j=1}^J \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \right) \right], \quad (9)$$

from which the coefficients β and γ can be estimated. The conditional logit model captures how taxes may affect the firm's decision h_{ijt} to invest in a given country, but not the total number of acquisition deals $N = \sum_{t=1}^T \sum_{j=1}^J n_{jt}$ which is thought to be fixed (see Schmidheiny and Brühlhart, 2011, p.215). Rather, the probability (8) determines the allocation of firms between host country j during year t , that is

$$E[n_{jt}] = NP_{jt} = N \frac{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{\sum_{j=1}^J \sum_{t=1}^T \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}, \quad (10)$$

which depends on the taxes of country j , but also on those of the possible alternatives j' .

It is well known that the distributional assumptions of the conditional logit model result in constant relative probabilities to undertake an acquisition with a given host country j across all pairs of possible alternatives j' with odds ratio $P_{jt}/P_{j't} = \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)$. Though convenient for estimation, this assumption implies that the decision to invest in host country j is independent from the composition of the alternatives thought to be available. To determine whether or not this so-called independence from irrelevant alternatives (IIA) assumption holds empirically, Hausman and McFadden (1984) have devised a test comparing the differences of estimated coefficients between an unrestricted model, denoted by subscripts u , and a restricted model, denoted by subscripts r , eliminating choices (host countries) from J . Under the null-hypothesis that the IIA-assumption holds, these coefficients should not differ significantly. With b denoting the estimated coefficients and V the corresponding variance-covariance matrix, the Hausman-statistic $H_{IIA} = [b_r - b_u]'[V_r - V_u][b_r - b_u]$ —which is χ^2 -distributed with the number of degrees of freedom equalling the number of explanatory variables—is used to test this hypothesis.

To avoid the caveats of the conditional logit model, the aggregated number n_{jt} of deals with target country j during year t can be used as dependent variable instead of the location choices h_{ijt} . Based on the assumption that the number of cross-border acquisitions n_{jt} is independently distributed between the 18 possible host countries, basic count regressions operate with the Poisson distribution, that is

$$Prob[n = n_{jt}] = \frac{\exp(-\lambda_{jt}) \lambda_{jt}^{n_{jt}}}{n_{jt}!}, \quad (11)$$

where the Poisson parameter λ_{jt} reflects the mean as well as variance of the distribution. Since event counts cannot adopt negative values, Poisson count regressions employ an exponential mean transformation to connect the Poisson parameter with the explanatory variables of (6), that is

$$E[n_{jt}] = \lambda_{jt} = \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma + \delta_t) = \alpha_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma), \quad (12)$$

where $\alpha_t = \exp(\delta_t)$ absorbs the heterogeneity from different years and is here treated as fixed effect.¹² Owing to the aggregation of the individual deals into a count n_{jt} , which obeys the stochastic distribution (11), the deal specific error term no longer appears in (12). Following Guimaraes *et al.* (2003), Appendix A.1 demonstrates that the joint distribution of (11) and (12) over 18 host countries j and 11 years t yields the log likelihood function

$$\ln L_{pc} = \sum_{t=1}^T \sum_{j=1}^J n_{jt}(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) - \sum_{t=1}^T \sum_{j=1}^J \left[n_{jt} \ln \left(\sum_{t=1}^T \sum_{j=1}^J \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \right) \right] + C. \quad (13)$$

Since this differs from (9) only as regards the constant C , the coefficients of a Poisson count regression with fixed effects α_t and a conditional logit model are identical. Note that this does not apply to the estimation of standard deviations. Therefore, we follow Guimaraes *et al.* (2003), and bootstrap the standard deviations.¹³

5.4 Tax elasticities

The coefficients (β and γ) of the conditional logit model and Poisson count regression are not informative about the marginal effects of, say, taxes upon the expected number of acquisitions $E[n_{jt}]$. Therefore, some post estimation is warranted to obtain the direct tax elasticity η_{jt} , that is

$$\eta_{jt} = \frac{\partial E[n_{jt}]}{\partial \tau_{jt}} \frac{\tau_{jt}}{E[n_{jt}]}. \quad (14)$$

Even though the coefficient estimates are identical, Schmidheiny and Brühlhart (2011) observe that the direct elasticities differ between the Poisson count regression and the

¹²Instead, α_t can also be thought of as introducing additional randomness, which leads to the random effects Poisson count model. When random effects are assumed to be Gamma distributed, this leads to a count regression of the Negative Binomial class. As in the case with linear models for panel data, the Hausman-test $H_{fe} = [b_{fe} - b_{re}]'[V_{fe} - V_{re}][b_{fe} - b_{re}]$ provides the basis to decide whether or not the usage of fixed effects (fe) or effects (re) is warranted. See Cameron and Trivedi (1998) for a textbook discussion on panel data count regressions.

¹³Though the asymptotic standard deviations from the Poisson count and conditional logit model are lower compared with the bootstrapped values from the data, within the present context, this difference is modest and does not affect the conclusions we draw from the results of Section 6.

conditional logit model. In particular, as derived in Appendix A.2, by using (12) across host countries j and years t , the Poisson count regression has a constant direct tax elasticity of $\eta_{jt}^{count} = \eta^{count} = \gamma$ as long as the estimation occurs with the logarithmically transformed data $\tilde{\tau}_{jt}$. Using (10), the corresponding direct tax elasticity of the conditional logit model is $\eta_{jt}^{clogit} = (1 - P_{jt})\gamma$. Note that this (i) varies across alternative host countries j and years t , (ii) does not exceed η^{count} since $0 \leq P_{jt} \leq 1$, and (iii) depends on the taxes set in other host countries j' since this enters P_{jt} (see equation (8)). Since the elasticity pertaining to the conditional logit model changes with the tax rates, which differ barely across years t , we will summarize this in a time averaged value $\bar{\eta}_j^{clogit} = \sum_t \eta_{jt}^{clogit} / T$ for each host country j .

To see why the tax effect differs between the Poisson count regression and the conditional logit model, consider the cross-elasticity ζ_{jt} , that is the percentage change in the number of acquisitions with foreign country j after a percentage change in taxes $\tau_{j't}$ of another potential host country j'

$$\zeta_{jt} = \frac{\partial E[n_{jt}]}{\partial \tau_{j't}} \frac{\tau_{j't}}{E[n_{jt}]} \quad (15)$$

Economically, the cross-elasticity reflects the degree with which tax decisions in country j' exhibit spill-over effects towards other host countries. In this regard, count regressions and conditional logit models represent opposite scenarios. As derived in Appendix A.2, in count regressions, the constant cross-elasticity is $\zeta^{count} = 0$ meaning that spill-over effects are ruled out. Hence, each country can act independently when setting corporate tax rates for the multinational firm meaning that the international market for corporate control is thought to be segmented between hosts j . Schmidheiny and Brühlhart (2011) call this a positive-sum world in the sense that changes in the number of CBAs in one country do not come at the expense of other countries. Conversely, the conditional logit model allows for tax-induced spill-overs. In particular, the cross elasticity is $\zeta_{jt}^{clogit} = -P_{jt}\gamma$. Since $\sum_t \sum_j P_{jt} = 1$, the additional CBAs with host country j according to η_{jt}^{clogit} come entirely at the expense of competing countries j' . Hence, the conditional logit model reflects a zero-sum world (Schmidheiny and Brühlhart, 2011) where the global number of CBAs is thought to be fixed.

Table 5 about here.

Table 5 summarizes the different implications of the conditional logit model and the Poisson count regression for the calculation of (direct) tax elasticities. In spite of an identical coefficient estimate γ , considering alternative models for the location choice of the multinational firm gives rise to a more nuanced picture when it comes to reporting tax elasticities. In particular, the conditional logit model marks a lower bound (in absolute value) for the direct tax elasticity where tax-induced increases of CBAs are diverted from

competing host countries within an integrated market for corporate control. The direct elasticity resulting from the Poisson count regression marks an upper bound reflecting a scenario with a market for corporate control that is separated between countries. Under this scenario, a favorable tax environment creates CBAs rather than diverting them from competing locations j' .

6 Results

Table 6 reports the results connecting the econometric approaches resting on the foreign market entry choices of (7) with the empirical FDI/tax literature. In particular, columns 1 and 2 employ statutory rates, columns 3 and 4 effective average rates, and columns 5 and 6 effective marginal rates as measure for direct corporate taxes (all *without* accounting for the role of international tax credits). Columns 2, 4, and 6 consider the impact of foreign corporate tax rates with the inclusion of other taxes levied on sales and wage payments as well as the administrative burden to conform with the host country tax system. The results refer to all 8,892 CBAs by US firms during the 1995 to 2005 period with the 18 potential host countries. Depending on whether estimation occurred with a conditional logit model or a count regression, the sample contains $18 \times 8,892 = 160,056$ or $11 \times 18 = 198$ observations, respectively. As shown above, the resulting coefficient estimates are identical and the difference between the value of the log likelihood function $\ln L$ is due to the constant C appearing in the case of Poisson count regression. Finally, H_{fe} reports the Hausman-test as regards the panel data Poisson count regression favoring, aside from the specification of column 1, the fixed effects model at every conventional level of rejection.

Table 6 about here.

Inspection of the results relating to the control variables across the six specifications of Table 6 reveals that the coefficients concur with expectations. In particular, economic size, low labor costs, a cheap foreign currency, the proximity between countries, and institutional quality (in terms of investment freedom, a low level of corruption, or modest interventions into labor markets) significantly enhance a country's capacity to attract FDI. The effect of cumbersome entry regulation is negative but, by and large, insignificant. In all specifications, the effect of trade freedom is insignificant; this might reflect the fact that the trade barriers between the 18 developed host countries in the sample are already relatively low.

With respect to taxation, there is broad evidence that direct corporate taxes reduce a country's capacity to attract foreign investment (see De Mooij and Ederveen, 2003). This

is confirmed by the results presented in Table 6, where corporate taxes produce a negative coefficient when measured by statutory and effective average rates in columns 2 and 4. Conversely, with effective marginal rates, an insignificant coefficient arises in columns 5 and 6. As noted above, this is perhaps not surprising since effective marginal tax rates matter for incremental investments affecting the value of international merger deals rather than the discrete entry decisions associated with CBAs.¹⁴ Finally, other dimensions of taxation than corporate rates matter for international investment decisions (Desai and Hines, 2004). For the full sample covering all CBAs, relatively high sales taxes reduce the probability that a foreign country attracts an acquisition from a US firm. Likewise, a burdensome tax bureaucracy, and the associated administrative costs, deters FDI. A similar effect does not arise with taxes levied on wage payments.

Table 7 extends the analysis of the impact of taxes on foreign market entry decisions by accounting for international aspects such as tax credits or double taxation arising when US multinationals earn profits abroad. The direct tax variable of columns 1 and 2 is defined as in equation (3) of Section 3 where foreign income is assumed to be repatriated and tax credits can be earned on foreign corporate as well as withholding tax payments. Recall that τ_{int} in (3) can be calculated with statutory or effective average rates.¹⁵ The adjustment of the corporate tax burden with international tax effects uncovers some striking differences. Specifically, though a significantly negative entry (at the 10 percent level) arises again when using statutory tax rates to calculate (3) in column 1, the effect is insignificant when using effective average rates in column 2. Columns 3 and 4 consider a scenario where a US multinational wants to defer the repatriation of foreign profits. The corresponding international tax burden τ_{int}^{def} is calculated as in equation (4) using again either statutory or effective average rates. In this case, too, the estimated coefficient on corporate taxes is lower and insignificant. In sum, to the degree with which CBAs reflect long-term market entry decisions and, hence, the EATR provides the appropriate measure and/or the repatriation of foreign profits can be referred, accounting for international effects appears to reduce the importance of corporate taxes as determinant of choosing a country as host when US firms take-over a foreign subsidiary.

Table 7 about here.

To check the robustness of the result that tax credits mitigate against the effect of direct corporate taxation when US multinationals invest abroad, we have re-estimated the co-

¹⁴We have also estimated a regression with the value of all CBAs by US firms with country j during year t as dependent variable. In this case, effective marginal effects yield a significantly negative entry. However, due to the caveats of using value data discussed in Section 5.3, we will rely on discrete entry decisions h_{ijt} and international merger counts n_{jt} when calculating the further results.

¹⁵Since effective marginal tax rates are unimportant for entry decisions, a corresponding international tax adjusted measure has not been calculated.

efficients of Tables 6 and 7 using several alternative specifications. In particular, we have included the lagged number of CBAs as additional explanatory variable to account for the possibility of correlation across years. Furthermore, an alternative to calculating the tax rates accounting for international tax relief would be the double tax burden, e.g., the taxes a multinational firm pays in excess of the US rate (compare Huizinga and Voget, 2009a). To obtain this, the US tax rate τ_{us} would have to be subtracted from (3) and (4). No substantive differences in the results arise with these modifications with the tax-credit adjusted corporate taxation measure (using the effective average rates) continuing to be statistically insignificant.¹⁶ For the sake of brevity, the results of the robustness checks are not reported here, but are available on request.

Following the procedure outlined in Section 4, Table 8 reports the results that relate to the distinction between the horizontal and vertical strategies for FDI using a 5 benchmark for \bar{V} to identify deals that are deemed vertically related. Recall that the sample contains only deals where a ‘purely’ horizontal or vertical relationship between acquiring and target firms could be identified. Following the discussion above, the results have been calculated with statutory and effective average corporate tax rates and making the distinction between cases (i) only with foreign corporate taxes, (ii) accounting for the role of tax credits and withholding taxes (compare (3)), and (iii) the international tax burden when the repatriation of foreign profits can be deferred (compare (4)). Compared with the baseline results, the distinction between horizontal and vertical acquisition strategies does not give rise to large differences as regards the significance of the control variables. An exception to this is the insignificant entry of net wages in all specification with horizontal acquisitions whilst one significant effect arises with vertical acquisitions. This is perhaps not surprising since horizontal FDI is thought to be market access seeking rather than driven by the desire to outsource production stages underlying vertical FDI, where labor cost considerations may be more relevant. Furthermore, variables such as the freedom to undertake FDI and the burden of regulation seem to matter more when multinational firms pursue a vertical strategy. Again, this is not surprising when outsourcing involves mainly lower wage countries where institutional quality of institutions tends to be lower as well.

Table 8 about here.

The effect of direct corporate taxes in Table 8 is consistent with the findings above in the sense that credits on foreign tax payments and deferrals reduce the effect of taxes

¹⁶To absorb differences between host countries, we have also calculated specifications with country-specific effects. However, the inclusion of 11 year and 18 country-specific variables reduces the heterogeneity remaining for estimating coefficients that, indeed, turn out to be almost always insignificant in this case.

towards statistical insignificance. Likewise, there are no qualitative differences as regards the significant deterrent of a cumbersome tax bureaucracy and labor taxes. However, the most notable difference across the horizontal and vertical motivations is that sales taxes do have a negative impact on horizontal acquisitions while the corresponding coefficient is much lower, and insignificant for vertical acquisitions. This is intuitive since exported goods are often exempted from local sales taxes and the primary rationale for vertical integration relates exactly to the production of intermediate inputs to downstream stages of the supply chain located in other countries. Conversely, with horizontal acquisitions, multinational firms integrate a foreign plant to produce and sell goods locally such that the sales tax should matter. Note that the distinction of the impact of taxes is robust to using a 1 and a 10 percent benchmark for \bar{V} . Again, for the sake of brevity, we do not report these results here but are available on request.

In sum, our results suggest that: (i) not accounting for double taxation issues, profit taxes in the host country reduces FDI with the impact of the EATR being lower than the statutory rate; (ii) accounting for international effects implies that the direct corporate tax rate in the host country is maybe less important for the decision of US firms to acquire overseas targets than previous research suggests; (iii) sales taxes matter mainly for CBAs where multinational firms pursue a horizontal strategy and, thus, aim to sell locally whilst for vertical investment strategies, whose re-exports are exempted from the corresponding tax payments, the detrimental effect is insignificant; and (iv) the administrative tax burden is always a significant impediment to FDI.

To address whether the critical assumption of independence from irrelevant alternatives (IIA) holds (discussed in Section 5), we apply the above mentioned test of Hausman and McFadden (1984) to the conditional logit model. The subsequent elimination of the 18 possible host countries across the specifications of Tables 6 to 8 never yields a value of the Hausman-test statistics H_{IIA} above 2. Against a critical value of 22.36 from a χ^2 distribution with 13 degrees of freedom (e.g., the number of regressors), this is far from significant. We have also used tests where we drop up to 5 host countries¹⁷ from the choice set J . Even then, we could never reject the IIA-assumption. For the sake of brevity, these results are not reported here, but are available on request.

Tax elasticities estimates can differ between countries and depend, furthermore, on the econometric framework (conditional logit or Poisson count model), the tax measure used (statutory or effective average rate), and the investment strategy (horizontal or vertical) a multinational firm is thought to pursue. Taken together, this means that a range of values

¹⁷Limdep, with which the results have been calculated, allows to drop up to 5 alternatives from the choice set J .

can be attached to the tax elasticity on, say, the effect of direct corporate taxes reflecting the underlying uncertainties of the appropriate econometric strategy and measurement of taxation. Against this background, across host countries, Figures 1 and 2 show the ranges of elasticities that are compatible with the coefficients estimated above. Thereby, the bounds reported for each country refer to the minimum and maximum tax elasticity (in absolute value) associated with the conditional logit model and the Poisson count regression, respectively (compare Table 5).

Figure 1 focuses on the role of international tax relief and tax deferrals whereby the elasticities of corporate taxes measured by statutory rates appear in the top panel. Though all resulting values lie between 0 and -1, there is dispersion depending on whether only the foreign corporate tax rate is used (this relates to the coefficients of column 2 of Table 6), tax credits and withholding taxes are taken into account (this relates to the coefficients of column 1 of Table 7), or a case with deferred profit repatriation is considered (this relates to the coefficients of column 3 of Table 7). Furthermore, the dispersion appears to increase with the size of the country and is highest for the UK, Canada, Germany, and France. This is perhaps not surprising since these economically large countries also attract a substantial fraction of US acquisition deals (since P_{jt} is relatively high) entailing considerable spill-over effects in case other countries change their tax rates, which reduces the tax elasticity (see Table 5). The bottom panel of Figure 1 uses the EATR. Regardless whether a case with only foreign tax rates (see column 4 of Table 6), international tax effects (see column 2 of Table 7), or deferrals in repatriating profits (see column 4 of Table 7) is considered, the value of the direct tax elasticity is relatively stable and lies between -0.4 to -0.6.

Figure 1 about here.

The range of direct tax elasticities reported in Figure 1 is both low and narrow compared with what has been found in previous studies (see De Mooij and Ederveen, 2003). The broader data coverage as well as the fact that our estimates refer to the effect of taxation on market entry decisions, rather than the amount to be invested in an FDI project, provide possible explanations for this.¹⁸

Figure 2 compares the tax elasticities between horizontal and vertical CBAs. In particular, the top and middle panel show the range of elasticities for corporate taxes measured in terms of statutory and effective average tax rates whereby no systematic pattern between horizontal or vertical seems emerge. However, the range and value of tax elasticities

¹⁸The reason for finding low elasticities is neither the data source nor the sample of host countries we use. Using the deal values of CBAs referred to in footnote 14 yields indeed much higher values for the direct tax elasticities. Recall again the caveats of these value data as discussed in Section 5.3.

is again lower when using the EATR. Finally, the bottom panel displays the sales tax elasticities whereby the values for the full sample are based on the coefficients of column 4 of Table 7.¹⁹ Across the different host countries and estimation methods, the range of tax elasticities is relatively low and lies between -0.1 and -0.15. Insofar as sales taxes are levied on local transactions that are relatively immobile, this result seems intuitive. Recalling the differential effect of sales taxes between horizontal and vertical deals, the other ranges refer to the sales tax elasticities calculated from, respectively, column 6 and 12 of Table 8. Whilst for horizontal deals the results are comparable to the full sample, for vertical deals the value of the tax elasticity is close to zero (and the underlying coefficient is insignificant) reflecting the idea that sales taxes are maybe unimportant when subsidiaries are mainly set up for exporting intermediate and final goods.

Figure 2 about here.

7 Concluding remarks

Attracting FDI is an important goal for policy-makers, with the use of taxes seen as being one of the primary instruments to achieve this. Previous research has emphasized the role of modest direct corporate taxes to increase a country's appeal as host for FDI and suggested that the corresponding effect is potentially high.

By analyzing the decisions of US multinational firms to invest in specific host countries as embodied in cross border acquisition deals—the most prominent form of FDI—this paper suggests that the effects of taxation are less clear cut. First, countries such as the US have concluded a large number of bilateral tax treaties that almost always permit a multinational firm to deduct a fraction of, or even all, direct corporate and withholding taxes paid abroad. International tax relief tends to adjust the level of direct corporate taxation. Our results show indeed that after accounting for the deductions stipulated in such treaties, the effect of direct corporate taxation in a foreign host country is always insignificant. Furthermore, the tax burden on the multinational firm is not restricted to direct taxation. We indeed find that sales taxes provide a significant deterrent for FDI. Then, again, the issue of relief from sales taxes matters. This effect is most clear when we account for differences in investment strategies, since horizontal FDI is thought to be market-access seeking and involves the local sale of goods whereas vertical FDI is thought to be endowment-seeking and often involves an export of locally produced goods. These are typically exempted from the local sales tax that should, therefore, be irrelevant

¹⁹Observe that the coefficient estimates on sales taxes are strikingly similar between the results of Tables 6 to 8 with significant coefficients (e.g., the top value of tax elasticities according to the Poisson count regression) falling in the range between -0.1 and -0.2.

for international investment decisions by the vertically integrated multinational firm. By comparing whether the US acquirer and foreign target firm share the same industry and are vertically related (in terms of substantial value flows between these industries), we have identified purely horizontal and vertical cross border acquisitions. Making this distinction leads indeed to a significant entry of the sales tax for horizontal, but not for vertical deals. Finally, the efficiency of public authorities in collecting taxes appears to be an important locational advantage for some countries and an important deterrent for FDI in others.

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A Derivations

A.1 Log-Likelihood of Fixed Effects Poisson Count Regression

There are several ways to derive the fixed effects estimator for Poisson count regressions (Cameroon and Trivedi, 1998, ch. 9.3). Following Guimaraes *et al.* (2003), we use a maximum likelihood approach estimating the coefficients (β, τ) simultaneously with the fixed effects α_t . Using (11) to calculate the likelihood function over 18 host countries j and 11 years t yields

$$\ln L(\alpha_t, \beta, \gamma) = \sum_{t=1}^T \sum_{j=1}^J \ln \left[\frac{\exp(-\lambda_{jt}) \lambda_{jt}^{n_{jt}}}{n_{jt}!} \right], \quad (\text{A.1.1})$$

which upon substituting (12) gives

$$\begin{aligned} \ln L(\alpha_t, \beta, \gamma) = & \sum_{t=1}^T \left[-\alpha_t \sum_{j=1}^J \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \right. \\ & \left. + \ln \alpha_t \sum_{j=1}^J n_{jt} + \sum_{j=1}^J n_{jt}(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) - \sum_{j=1}^J n_{jt}! \right]. \end{aligned} \quad (\text{A.1.2})$$

Differentiating (A.1.2) with respect to α_t and setting equal to 0 gives

$$\hat{\alpha}_t = \frac{\sum_j n_{jt}}{\sum_j \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}. \quad (\text{A.1.3})$$

Substituting (A.1.3) into (A.1.2) to eliminate the fixed effect α_t gives equation (13) in the text with $C = \sum_{t=1}^T \sum_{j=1}^J n_{jt} + \sum_{t=1}^T \sum_{j=1}^J n_{jt}!$ (and constant with respect to β and τ).

A.2 Tax elasticities

Recall that $\tilde{\tau}_{jt} \equiv \ln(\tau_{jt})$. Using (12) the direct tax elasticity of the Poisson count regression is given by

$$\eta^{count} = \frac{\partial E[n_{jt}]}{\partial \tau_{jt}} \frac{\tau_{jt}}{E[n_{jt}]} = \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \frac{\gamma}{\tau_{jt}} \frac{\tau_{jt}}{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)} = \gamma. \quad (\text{A.2.1})$$

Since (12) is independent of $\tau_{j't}$ the cross-elasticity is

$$\zeta^{count} = \frac{\partial E[n_{jt}]}{\partial \tau_{j't}} \frac{\tau_{j't}}{E[n_{jt}]} = 0. \quad (\text{A.2.2})$$

Following from (10), the direct tax elasticity of the conditional logit model is given by

$$\begin{aligned} \eta_{jt}^{clogit} &= \frac{\partial E[n_{jt}]}{\partial \tau_{jt}} \frac{\tau_{jt}}{E[n_{jt}]} = N \left\{ \frac{[\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)] \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \left(\frac{\gamma}{\tau_{jt}}\right)}{[\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)]^2} \right. \\ &\quad \left. - \frac{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \left(\frac{\gamma}{\tau_{jt}}\right)}{[\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)]^2} \right\} \cdot \frac{\tau_{jt} \sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{N \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}, \end{aligned} \quad (\text{A.2.3})$$

which upon canceling terms reduces to

$$\eta_{jt}^{clogit} = \gamma - \underbrace{\frac{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}}_{=P_{jt} \text{ according to (8)}} \gamma = (1 - P_{jt})\gamma. \quad (\text{A.2.4})$$

Since (A.2.4) depends on time t the average country elasticity is given by

$$\bar{\eta}_j = \sum_{t=1}^T \eta_{jt} / T. \quad (\text{A.2.5})$$

The cross-elasticity of the conditional logit model is now given by

$$\begin{aligned} \zeta_{jt}^{clogit} &= \frac{\partial E[n_{jt}]}{\partial \tau_{j't}} \frac{\tau_{j't}}{n_{jt}} = \frac{-N \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma) \left(\frac{\gamma}{\tau_{j't}}\right)}{[\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)]^2} \\ &\quad \cdot \frac{\tau_{j't} \sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{N \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}, \end{aligned} \quad (\text{A.2.6})$$

which upon canceling terms reduces to

$$\zeta_{jt}^{clogit} = - \underbrace{\frac{\exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}{\sum_j \sum_t \exp(\tilde{x}_{jt}\beta + \tilde{\tau}_{jt}\gamma)}}_{=P_{jt} \text{ according to (8)}} \gamma = -P_{jt}\gamma. \quad (\text{A.2.7})$$

B Data Appendix

Description of the Data Set

Variable	Unit	Description	Source
Dependent Variables:			
h_{ijt}	Nominal	For each US cross border acquisition (CBA) between 1995 and 2005, this indicates whether country j has been chosen as host, in which case $h_{ijt} = 1$, or another country has been chosen as host, in which case $h_{ijt} = 0$. 18 countries (Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK) are potential hosts.	SDC Platinum (Thomson Financial).
n_{jt}	Count	Number of CBAs between the US and host countries j during year t .	SDC Platinum.
Tax Variables:			
Corporate Tax (Statutory Rate)	Percent	Statutory tax rate on corporate profits in country j . For countries using different taxes, the manufacturing rate is chosen. Local taxes are included where they exist.	Institute of Fiscal Studies (IFS) and Devereux <i>et al.</i> (2002).
Corporate Tax (EATR)	Percent	Effective average tax rate (EATR) on corporate profits in country j . This is the proportion of profit from an investment in plant in machinery taken in tax accounting for capital depreciation and tax allowances.	IFS and Devereux <i>et al.</i> (2002).
Corporate Tax (EMTR)	Percent	Effective marginal tax rate (EMTR) on corporate profits in country j . This is calculated by the difference between the pre-tax and post-tax required rates of return.	IFS and Devereux <i>et al.</i> (2002).
Corporate Tax (τ_{int})	Percent	This is the tax rate on a multinational firm accounting for tax credits as stipulated in double income tax treaties as well as withholding taxes when profits are repatriated to the US (in form of dividends). We use statutory or effective average tax rates to calculate this.	For details how this variable is constructed, see Section 3.
Corporate Tax (τ_{int}^{def})	Percent	This is the tax rate on a multinational firm when the repatriation of foreign profits is deferred. We use statutory or effective average tax rates to calculate this.	For details how this variable is constructed, see Section 3.
Sales Tax	Percent	Value added tax (VAT) rate and other sales taxes.	IMF, Tax Policy Division.
Labor Tax	Percent	Compulsory social security and income tax contributions in percent of gross salaries. Data are published on a tri-annual basis. Values of the missing years have been filled with the closest observation available.	UBS, Prices and Earnings.
Administrative Tax Burden	Index (time)	Time that companies need on average to comply with tax regulations (prepare, file, and pay major taxes) in terms of hours per year.	Djankov <i>et al.</i> (2010).

Control Variables:					
Corruption	Index		Corruption index on a scale from 10 to 90. Original values have been reversed such that higher values mean more corruption. For 1995, the values for Belgium, Finland, Netherlands and Norway are not available and the 1996 value is used.	Heritage	Foundation.
Distance	1,000 Km.		Great circular distance between Washington DC and the capital city of host country.	Compiled.	
Exchange Rate	Rate		Real (bilateral) exchange rate.	World Development Indicators.	
Investment Freedom	Index		Index of freedom of investment reflecting e.g., whether foreign firms are treated the same as domestic firms, whether the government imposes restrictions on payments or capital transactions, or whether specific industries are closed to foreign investment. For 1995, the values for Belgium, Finland, Netherlands and Norway are not available and the 1996 value is used.	Heritage	Foundation.
Labor Freedom	Index		Index of labor market freedom on a scale from 10 to 90 measuring dimensions such as minimum wages, regulation against layoffs, regulatory burden on hirings etc. This data is only available from 2005. For other years, the value of 2005 has been used.	Heritage	Foundation.
Net Wage	Index (Zurich =100)		Net wage in the host country. Wages are measured by an index referring to the hourly income of 13 comparable professions (product managers, department heads, engineers, primary school teachers, bus drivers, car mechanics, building laborers, industrial workers, cooks, bank credit officers, personal assistants, sales assistants, factory workers) as paid in the capital city or the financial center of a country. Data are published on a tri-annual basis. Values of the missing years have been filled with the closest observation available.	UBS, Prices and Earnings.	
Market Size	Bn. US\$		Real gross domestic product in US\$ with base year 2000 of the host country j .	World Development Indicators.	
Regulatory Burden	Index		Regulatory Burden measures the ability to start, operate, and close a business that represents the overall burden of regulation. For 1995, the values for Belgium, Finland, Netherlands and Norway are not available and the 1996 value is used instead. The original values have been reversed such that higher values mean more regulation.	Heritage	Foundation.
Trade Freedom	Index		This measures tariff and non-tariff barriers on a scale from 10 to 90. For 1995, the values for Belgium, Finland, Netherlands and Norway are not available and the 1996 value is used.	Heritage	Foundation.

Figures and Tables

Table 1: Direct and Indirect Taxes, 2005

Direct Corporate Profit Tax												
Tax Rate: Int. Tax Credits: Deferral:		Statutory		EATR		EMTR		Statutory		EATR		EATR
		no no (1)	no no (2)	no no (3)	yes no (4)	yes yes (5)	yes no (6)	yes no (7)				
Australia		30	26.2	24	39.3	39.3	29	26.2	0	10	11.4	107
Austria		25	21.9	20	39.3	39.3	29	29	5	20	25.1	272
Belgium		34	26.4	22	39.3	39.3	30.1	26.4	5	21	24.3	160
Canada		35.6	28.4	25	39.3	36.0	32	28.4	5	7	7	119
Finland		26	20.7	17	39.3	39.3	29	29	5	22	18	264
France		33.8	25.4	20	39.3	39.3	29	29	5	19.6	37.7	128
Germany		38.3	31.5	29	39.3	38.0	34.9	31.5	5	16	16.8	105
Greece		32	20.6	12	39.3	39.3	29	29	0	19	23.8	204
Ireland		12.5	10.9	10	39.3	39.3	29	29	0	21	9.1	76
Italy		37.3	26	19	40.2	37.0	29.7	29	5	20	35.2	360
Japan		39.7	31.7	28	46.0	40.0	38.5	31.7	10	5	10	315
Netherlands		31.5	25.1	21	39.3	39.3	29	29	5	19	12.9	250
Norway		28	24.2	22	39.3	39.3	35.6	29	15	25	12	87
Portugal		27.5	20.2	15	39.3	39.3	29	29	5	21	20.1	328
Spain		35	26.1	21	41.5	39.3	33.5	29	10	16	33.2	602
Sweden		28	20.9	16	39.3	39.3	29	29	0	25	27.2	122
Switzerland		33.7	25.1	20	39.3	39.3	29	29	5	7.6	8.6	63
UK		30	23.9	20	39.3	39.3	29	29	0	17.5	8.2	105
Mean		34.2	24.2	20.1	39.3	39.0	29.3	30.8	4.4	17.3	18.9	203.7
Maximum		39.7	31.7	29	40	46	31.7	38.5	15	25	37.7	602
Minimum		12.5	10.9	10	39.3	39.3	29	29	0	5	7	63

Table 2: Definition of Horizontal and Vertical Cross Border Acquisitions

FDI Strategy	Horizontal Relatedness	Vertical Relatedness
Pure Horizontal	$\exists r, s \text{ s.t. } SIC_a^r = SIC_b^s$	$V_{ab}^{rs} < \bar{V} \forall r, s$
Pure Vertical	$SIC_a^r \neq SIC_b^s \forall r, s$	$\exists r, s \text{ s.t. } V_{ab}^{rs} > \bar{V}$

Table 3: Number of Cross Border Acquisitions by US Multinationals (1995 - 2005)

	All Deals	Horizontal ($\bar{V}=5\%$)	Horizontal ($\bar{V}=10\%$)	Vertical ($\bar{V}=5\%$)	Vertical ($\bar{V}=10\%$)
	(1)	(2)	(3)	(4)	(5)
Australia	543	124	227	174	50
Austria	59	21	33	13	2
Belgium	151	24	60	46	12
Canada	1974	345	751	553	142
Finland	83	15	35	42	8
France	779	130	279	240	70
Germany	1158	180	396	354	105
Greece	12	2	4	3	2
Ireland	131	17	46	52	14
Italy	306	46	97	83	21
Japan	219	25	58	74	22
Netherlands	341	50	129	118	37
Norway	100	30	40	28	12
Portugal	26	7	13	5	3
Spain	206	51	78	52	20
Sweden	217	31	86	72	20
Switzerland	188	24	63	69	23
UK	2399	430	949	782	210
Total	8,892	1,554	3,344	2,759	771

Table 4: Summary Statistics

	Market Net Size	Wage	Labor Freed.	Distance	Investment Freed.	Regul. Burden	Trade Freed.	Corruption	Exchange Rate	Corporate Tax			VAT	Labour Admin. Tax Burd.
										Stat.	EATR	EMTR	τ_{int}	
Mean	1.36	4.02	4.09	1.83	4.21	-4.00	4.31	-4.38	0.45	3.49	3.22	2.98	3.72	2.75
Std.Dev.	1.12	0.42	0.20	0.58	0.17	0.17	0.05	0.19	1.35	0.32	0.31	0.44	0.10	0.62
Minimum	-0.52	3.14	3.82	-0.31	3.91	-4.25	4.07	-4.61	-0.59	2.30	2.00	0.90	3.67	0
Maximum	3.93	6.49	4.42	2.77	4.5	-3.40	4.53	-3.74	5.15	4.04	3.72	3.62	4.08	3.26
Correlation Matrix														
Net Wage	0.20													
Labour Freed.	0.47	0.37												
Distance	0.01	-0.01	-0.19											
Invest. Freed.	-0.35	0.02	-0.29	0.29										
Regul. Burd.	-0.25	-0.26	-0.44	0.31	0.29									
Trade Freed.	0.04	0.11	0.06	-0.12	-0.09	0.03								
Corruption	-0.18	-0.39	-0.38	0.15	0.03	0.19	-0.01							
Exchange Rate	0.37	0.40	0.18	0.20	-0.38	-0.08	0.07	-0.26						
Statutory Tax	0.52	-0.26	0.09	0.07	-0.25	0.29	0.05	-0.02	0.10					
EATR	0.53	-0.16	0.21	0.07	-0.26	0.22	0.04	-0.15	0.18	0.95				
EMTR	0.36	0.02	0.30	0.02	-0.21	0.05	0.04	-0.32	0.24	0.62	0.81			
τ_{int}	0.56	0.05	0.08	0.26	-0.18	0.06	0.04	-0.06	0.29	0.53	0.51	0.37		
VAT	-0.31	-0.16	-0.64	-0.07	0.26	0.12	-0.06	0.08	-0.29	-0.23	-0.33	-0.36	-0.30	
Labour Tax	-0.01	0.08	-0.07	-0.13	0.21	0.22	-0.03	-0.37	-0.06	0.10	0.10	0.04	0.05	0.33
Admin. Tax B.	0.11	-0.45	-0.40	0.14	-0.06	0.22	0.01	0.33	-0.04	0.37	0.24	-0.01	0.16	0.13
														-0.30

Table 5: Coefficients and Tax Elasticities

	Conditional Logit Model	Poisson Count Regression
Direct- Elasticity	$\bar{\eta}_j^{clogit} = \frac{\sum_{t=1}^T \eta_{jt}^{clogit}}{T} = \frac{\sum_{t=1}^T (1-P_{jt})\gamma}{T}$	$\eta^{count} = \gamma$
Economic Context	<ul style="list-style-type: none"> • Lower bound for direct tax elasticity • Cross-elasticity $\neq 0$ • Integrated CBA market • CBA diversion 	<ul style="list-style-type: none"> • Upper bound for direct tax elasticity • Cross-elasticity $= 0$ • Segmented CBA market • CBA creation/distruction

Table 6: Results for Statutory and Effective Tax Rates

Corporate Tax:	Statutory Rate		Effective Average Rate		Effective Marginal Rate	
	(1)	(2)	(3)	(4)	(5)	(6)
Market Size	0.94*** (0.05)	0.95*** (0.05)	0.86*** (0.05)	0.91*** (0.05)	0.81*** (0.04)	0.84*** (0.04)
Net Wage	-0.13 (0.17)	-0.37* (0.21)	-0.08 (0.18)	-0.42* (0.22)	-0.03 (0.18)	-0.42* (0.23)
Labor Market Freedom	1.80*** (0.25)	1.07*** (0.30)	1.93*** (0.27)	1.05*** (0.32)	1.93*** (0.26)	1.03*** (0.32)
Distance	-0.48*** (0.06)	-0.45*** (0.06)	-0.46*** (0.06)	-0.46*** (0.06)	-0.43*** (0.06)	-0.45*** (0.06)
FDI Freedom	0.82*** (0.29)	0.73*** (0.29)	0.96*** (0.29)	0.91*** (0.27)	0.99*** (0.29)	0.98*** (0.27)
Regulatory Burden	-0.39 (0.29)	-0.16 (0.33)	0.07 (0.28)	-0.35 (0.31)	-0.21 (0.27)	-0.57* (0.30)
Trade Freedom	0.18 (0.70)	0.24 (0.71)	0.13 (0.72)	0.15 (0.73)	0.14 (0.69)	0.12 (0.70)
Corruption	-1.93*** (0.35)	-1.36*** (0.36)	-1.86*** (0.37)	-1.36*** (0.39)	-1.54*** (0.41)	-1.19*** (0.43)
Exchange Rate	-0.37*** (0.04)	-0.33*** (0.05)	-0.37*** (0.04)	-0.31*** (0.05)	-0.39*** (0.05)	-0.30*** (0.05)
Corporate Tax	-0.74*** (0.21)	-0.74*** (0.22)	-0.31 (0.23)	-0.47** (0.21)	0.11 (0.12)	-0.06 (0.11)
Sales Tax		-0.14*** (0.05)		-0.14*** (0.05)		-0.11** (0.05)
Labor Tax		0.24 (0.25)		0.08 (0.23)		-0.06 (0.22)
Administrative Tax Burden		-0.41*** (0.11)		-0.49*** (0.10)		-0.54*** (0.10)
#cba	8,892	8,892	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198	198	198
ln L_{cl}	-20,039	-19,897	-20,074	-19,918	-20,078	-19,932
ln L_{pc}	-1,010	-867.5	-1,045	-888.8	-1,049	-903.5
H_{fe}	12.6	152.9	97.6	98.7	1,505	110.5

Notes: Estimation is by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific effect α_t yield identical coefficients. The data cover CBAs by US firms between 1995 and 2005 with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and ln L the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . * Coefficients are significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table 7: Results accounting for International Taxation

Corporate Tax Rate: Tax Deferral:	Statutory no (1)	EATR no (2)	Statutory yes (3)	EATR yes (4)
Market Size	0.88*** (0.05)	0.87*** (0.05)	0.86*** (0.04)	0.87*** (0.05)
Net Wage	-0.36 (0.24)	-0.43* (0.23)	-0.37 (0.23)	-0.41* (0.23)
Labor Market Freedom	0.83*** (0.35)	0.85** (0.36)	0.95*** (0.31)	0.88*** (0.33)
Distance	-0.42*** (0.06)	-0.46*** (0.06)	-0.42*** (0.06)	-0.46*** (0.06)
FDI Freedom	0.89*** (0.27)	0.99*** (0.27)	0.96*** (0.27)	1.05*** (0.28)
Regulatory Burden	-0.55* (0.30)	-0.54* (0.30)	-0.56* (0.31)	-0.56* (0.31)
Trade Freedom	0.31 (0.72)	0.17 (0.70)	0.25 (0.71)	0.21 (0.71)
Corruption	-1.21*** (0.39)	-1.20*** (0.39)	-1.19*** (0.38)	-1.26*** (0.39)
Exchange Rate	-0.31*** (0.05)	-0.29*** (0.06)	-0.30*** (0.05)	-0.29*** (0.05)
Corporate Tax	-0.86* (0.49)	-0.53 (0.48)	-0.57 (0.43)	-0.52 (0.39)
Sales Tax	-0.14*** (0.05)	-0.16*** (0.06)	-0.10*** (0.05)	-0.12** (0.05)
Labor Tax	0.08 (0.23)	-0.01 (0.22)	0.01 (0.22)	0.04 (0.22)
Admin. Tax Burden	-0.52*** (0.11)	-0.55*** (0.10)	-0.53*** (0.11)	-0.56*** (0.11)
#cba	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198
ln L_{cl}	-19,905	-19,928	-19,926	-19,927
ln L_{pc}	-891.9	-898.8	-897.4	-898.0
H _{fe}	81.6	77.9	54.1	73.1

Notes: Estimation is by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific effect α_t yield identical coefficients. The data cover CBAs by US firms between 1995 and 2005 with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and ln L the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . * Coefficients are significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

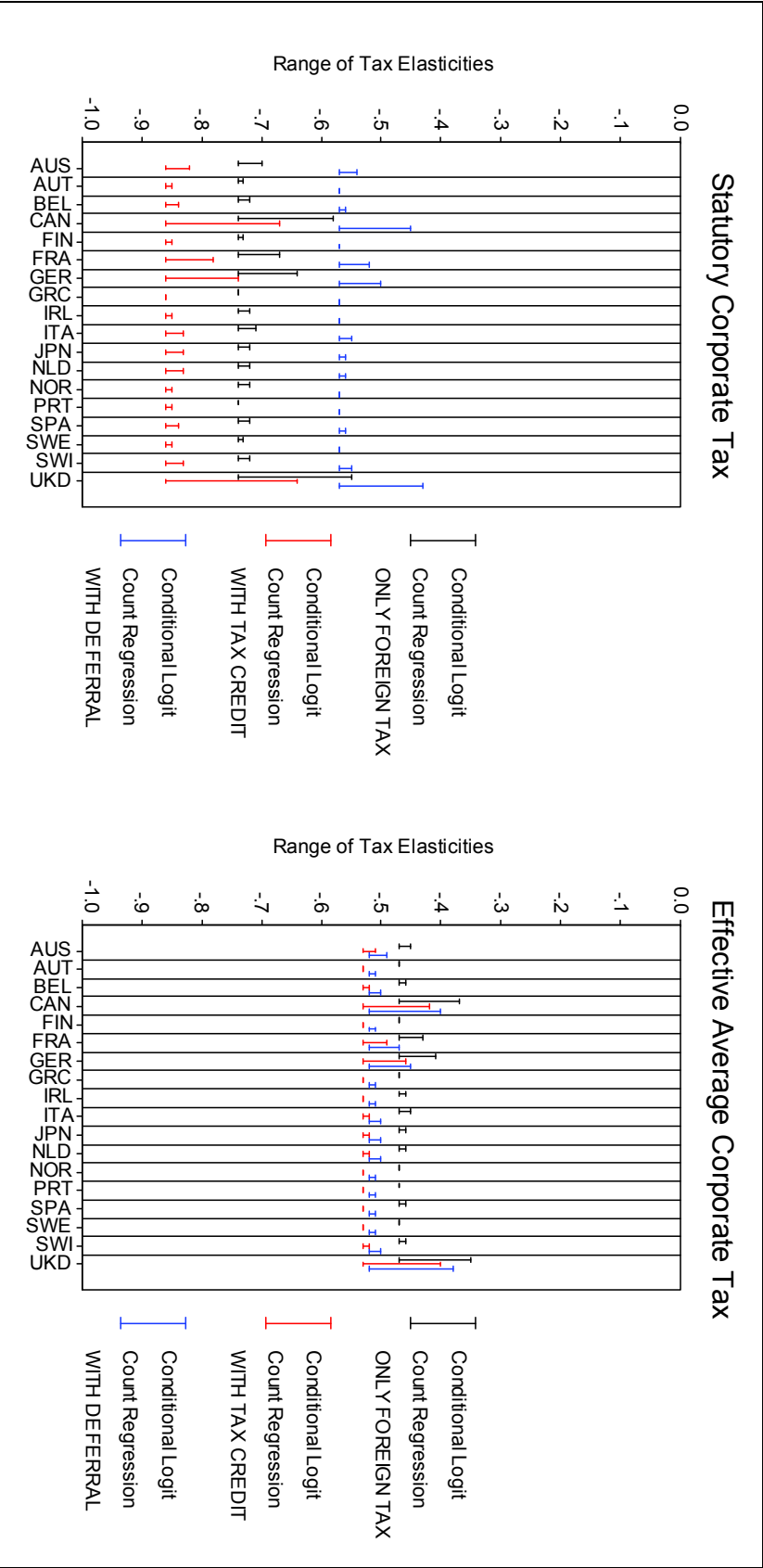


Figure 1: Tax Elasticities: Differences due to International Tax Effects

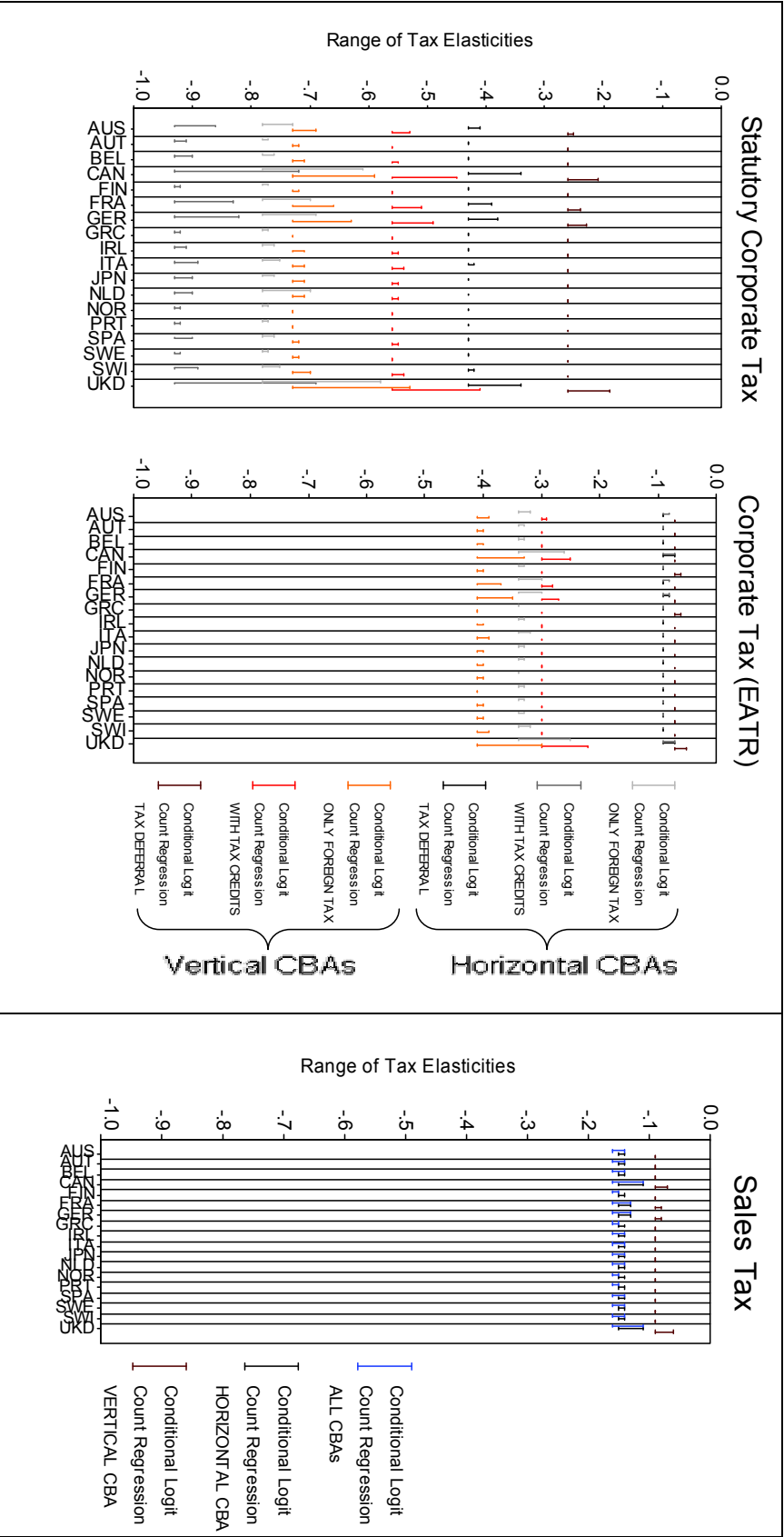


Figure 2: Tax Elasticities: Differences between Horizontal and Vertical CBAs

ADDITIONAL APPENDIX

INTERNATIONAL TAXATION AND FDI STRATEGIES: EVIDENCE FROM US CROSS-BORDER ACQUISITIONS

June 20, 2011

This appendix provides some additional results to verify several statements in the main body of the text. The tables are arranged following the pages on which these statements were made. Changes compared with the main body of the text are marked in ***bold italics***.

**Asymptotic Standard Deviations
(footnote 13)**

Table 6.A: Results for Statutory and Effective Tax Rates

Corporate Tax:	Statutory Rate		Effective Average Rate		Effective Marginal Rate	
	(1)	(2)	(3)	(4)	(5)	(6)
Market Size	0.94*** (0.05)	0.95*** (0.04)	0.86*** (0.05)	0.91*** (0.04)	0.81*** (0.04)	0.84*** (0.04)
Net Wage	-0.13 (0.12)	-0.37** (0.15)	-0.08 (0.13)	-0.42** (0.16)	-0.03 (0.13)	-0.42** (0.18)
Labor Market Fre.	1.80*** (0.28)	1.07*** (0.28)	1.93*** (0.27)	1.05*** (0.27)	1.93*** (0.24)	1.03*** (0.26)
Distance	-0.48*** (0.05)	-0.45*** (0.04)	-0.46*** (0.05)	-0.46*** (0.04)	-0.43*** (0.04)	-0.45*** (0.04)
FDI Freedom	0.82*** (0.23)	0.73*** (0.21)	0.96*** (0.23)	0.91*** (0.21)	0.99*** (0.23)	0.98*** (0.21)
Regulatory Burden	0.39* (0.22)	-0.16 (0.20)	0.07 (0.19)	-0.35* (0.19)	-0.21 (0.18)	-0.57*** (0.2)
Trade Freedom	0.18 (0.69)	0.24 (0.44)	0.13 (0.62)	0.15 (0.42)	0.14 (0.54)	0.12 (0.39)
Corruption	-1.93*** (0.26)	-1.36*** (0.22)	-1.86*** (0.29)	-1.36*** (0.24)	-1.54*** (0.31)	-1.19*** (0.26)
Exchange Rate	-0.37*** (0.04)	-0.33*** (0.04)	-0.37*** (0.04)	-0.31*** (0.04)	-0.39*** (0.04)	-0.3*** (0.04)
Corporate Tax	-0.74*** (0.19)	-0.74*** (0.19)	-0.31 (0.21)	-0.47*** (0.18)	0.11 (0.09)	-0.06 (0.07)
Sales Tax		-0.14*** (0.04)		-0.14*** (0.04)		-0.11*** (0.04)
Labor Tax		0.24 (0.16)		0.08 (0.15)		-0.06 (0.14)
Admin. Tax Burden		-0.41*** (0.08)		-0.49*** (0.07)		-0.54*** (0.08)
#cba	8,892	8,892	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198	198	198
lnL _{cl}	-20,039	-19,897	-20,074	-19,918	-20,978	-19,932
lnL _{pc}	-1,010	-867.5	-1,045	-888.8	1,049	-903.5
H _{fe}	12.58	156.8	97.6	98.7	1505	126.3

Notes: Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific fixed effects α_t yield identical coefficients. The data cover all CBAs by US firms during the 1995 to 2005 period with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. **Robust standard errors are reported in parantheses whereby the higher value of the conditional logit or Poisson count regression is reported.** Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Table 7.A: Results accounting for International Taxation

Corporate Tax Rate	Statuary	EATR	Statuary	EATR
Tax Deferral	no	no	yes	yes
	(1)	(2)	(3)	(4)
Market Size	0.88*** (0.04)	0.87*** (0.05)	0.86*** (0.04)	0.87*** (0.04)
Net Wage	-0.36** (0.18)	-0.43** (0.19)	-0.37** (0.18)	-0.41** (0.18)
Labor Market Fd.	0.83*** (0.30)	0.85** (0.37)	0.95*** (0.27)	0.88** (0.29)
Distance	-0.42*** (0.04)	-0.46*** (0.04)	-0.42*** (0.04)	-0.46*** (0.04)
FDI Freedom	0.89*** (0.21)	0.99*** (0.21)	0.96*** (0.21)	1.05*** (0.22)
Regulatory Bur.	-0.55** (0.23)	-0.54*** (0.21)	-0.56** (0.22)	-0.56** (0.22)
Trade Freedom	0.31 (0.49)	0.17 (0.42)	0.25 (0.47)	0.21 (0.43)
Corruption	-1.21*** (0.24)	-1.20*** (0.25)	-1.19*** (0.24)	-1.26*** (0.26)
Exchange Rate	-0.31*** (0.04)	-0.29*** (0.05)	-0.30*** (0.04)	-0.29*** (0.04)
Corporate Tax	-0.86* (0.51)	-0.53 (0.48)	-0.57 (0.43)	-0.52 (0.34)
Sales Tax	-0.14*** (0.04)	-0.16*** (0.06)	-0.10*** (0.04)	-0.12*** (0.04)
Labor Tax	0.08 (0.16)	-0.01 (0.14)	0.01 (0.14)	0.04 (0.14)
Admin. Tax Bur.	-0.52*** (0.07)	-0.55*** (0.07)	-0.53*** (0.07)	-0.56*** (0.07)
#cba	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198
lnL _{cl}	-19,905	-19,928	-19,926	-19,927
lnL _{pc}	-891.9	-898.8	-897.4	-898.0
H _{fe}	81.6	77.9	54.1	73.1

Notes: Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{ijt} and year specific fixed effects α_t yield identical coefficients. The data cover all CBAs by US firms during the 1995 to 2005 period with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. **Robust standard errors are reported in parantheses whereby the higher value of the conditional logit or Poisson count regression is reported.** Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Table 8.A: Results accounting for International Tax Relief

FDI Strategy	Horizontal Cross-Border Acquisitions (with V = 5 percent)						Vertical Cross-Border Acquisitions (with V = 5 percent)					
	Statutory Tax Rate			Effective Average Tax Rate			Statutory Tax Rate			Effective Average Tax Rate		
	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Corporate Tax	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Tax Credits	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Deferral	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Market Size	0.91*** (0.06)	0.85*** (0.06)	0.81*** (0.05)	0.84*** (0.06)	0.80*** (0.06)	0.80*** (0.05)	0.92*** (0.05)	0.83*** (0.05)	0.81*** (0.04)	0.86*** (0.05)	0.82*** (0.06)	0.80*** (0.04)
Net Wage	-0.41* (0.22)	-0.41 (0.26)	-0.43* (0.26)	-0.47* (0.25)	-0.46* (0.27)	-0.46* (0.26)	-0.26* (0.14)	-0.25 (0.18)	-0.26 (0.18)	-0.29* (0.17)	-0.29 (0.18)	-0.28 (0.18)
Labor Market Fd.	1.34*** (0.37)	1.08*** (0.40)	1.24*** (0.37)	1.32*** (0.35)	1.29*** (0.42)	1.29*** (0.39)	1.16*** (0.31)	0.95** (0.37)	1.05** (0.33)	1.12** (0.30)	0.99** (0.42)	1.07** (0.36)
Distance	-0.39*** (0.06)	-0.37*** (0.06)	-0.38*** (0.06)	-0.40*** (0.06)	-0.39*** (0.06)	-0.39*** (0.06)	-0.37*** (0.05)	-0.35*** (0.06)	-0.35*** (0.06)	-0.38*** (0.05)	-0.38*** (0.06)	-0.37*** (0.05)
FDI Freedom	0.38 (0.31)	0.55** (0.31)	0.63** (0.31)	0.58* (0.31)	0.64** (0.31)	0.64** (0.31)	0.71*** (0.27)	0.91*** (0.26)	0.95*** (0.26)	0.90*** (0.26)	0.96*** (0.26)	0.98*** (0.26)
Regulatory Bur.	-0.25 (0.31)	-0.13 (0.35)	-0.17 (0.33)	0.04 (0.31)	-0.20 (0.31)	-0.20 (0.31)	-0.28 (0.25)	-0.73** (0.29)	-0.74*** (0.29)	-0.53** (0.26)	-0.73*** (0.28)	-0.76*** (0.28)
Trade Freedom	0.88* (0.51)	0.95* (0.56)	0.84 (0.53)	0.78 (0.50)	0.75 (0.50)	0.76 (0.50)	-0.23 (0.50)	-0.22 (0.54)	-0.28 (0.52)	-0.32 (0.50)	-0.31 (0.49)	-0.33 (0.49)
Corruption	-1.34*** (0.37)	-1.30*** (0.41)	-1.27*** (0.40)	-1.38*** (0.40)	-1.24*** (0.41)	-1.24*** (0.42)	-1.57*** (0.29)	-1.37*** (0.31)	-1.35*** (0.31)	-1.52*** (0.31)	-1.36*** (0.31)	-1.33*** (0.32)
Exchange Rate	-0.42*** (0.06)	-0.40*** (0.07)	-0.40*** (0.07)	-0.40*** (0.07)	-0.40*** (0.08)	-0.40*** (0.07)	-0.32*** (0.04)	-0.29*** (0.04)	-0.30*** (0.04)	-0.29*** (0.04)	-0.29*** (0.05)	-0.29*** (0.05)
Corporate Tax	-0.78*** (0.28)	-0.93 (0.60)	-0.43 (0.50)	-0.34 (0.27)	-0.09 (0.59)	-0.09 (0.49)	-0.73*** (0.20)	-0.56 (0.54)	-0.26 (0.47)	-0.41** (0.21)	-0.31 (0.54)	-0.07 (0.41)
Sales Tax	-0.17*** (0.05)	-0.17*** (0.05)	-0.13*** (0.05)	-0.16*** (0.05)	-0.15** (0.06)	-0.14** (0.05)	-0.10*** (0.04)	-0.09* (0.05)	-0.06 (0.04)	-0.10** (0.04)	-0.09 (0.06)	-0.07 (0.04)
Labor Tax	0.01 (0.23)	0.14 (0.23)	-0.24 (0.22)	-0.19 (0.23)	-0.28 (0.22)	-0.28 (0.22)	-0.30 (0.22)	-0.08 (0.23)	0.02 (0.21)	0.12 (0.22)	0.02 (0.21)	0.01 (0.21)
Admin. Tax Bur.	-0.35*** (0.12)	-0.47*** (0.11)	-0.48*** (0.11)	-0.45*** (0.11)	-0.48*** (0.12)	-0.48*** (0.13)	-0.45*** (0.09)	-0.57*** (0.09)	-0.57*** (0.09)	-0.53*** (0.09)	-0.58*** (0.09)	-0.58*** (0.10)
#eba	1,554	1,554	1,554	1,554	1,554	1,554	2,750	2,750	2,750	2,750	2,750	2,750
#obs _{cl}	27,927	27,972	27,972	27,972	27,972	27,972	49,500	49,500	49,500	49,500	49,500	49,500
#obs _{pc}	198	198	198	198	198	198	198	198	198	198	198	198
lnL _{cl}	-3,504	-3,508	-3,510	-3,510	-3,511	-3,511	-6,180	-6,190	-6,192	-6,188	-6,191	-6,192
lnL _{pc}	-463.1	-467.9	-469.7	-469.0	-470.3	-470.3	-546.7	-556.8	-558.0	-554.7	-557.8	-558.3
H _{lc}	23.4	11.3	15.2	199.5	13.3	12.7	7.49	11.85	4.24	4.06	23.4	4.16

Some Results with the Value of CBAs using Tobit Regressions
(footnotes 14 and 18)

Corporate Tax:	<u>Statutory Rate</u>		<u>Effective Average Rate</u>		<u>Effective Marginal Rate</u>		Statutory Rate	EATR
Tax Credits	No	No	No	No	No	No	Yes	yes
Tax Deferral	No	No	No	No	No	No	No	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Market Size	0.94*** (0.05)	1.50*** (0.14)	0.86*** (0.05)	1.42*** (0.13)	0.81*** (0.04)	1.25*** (0.12)	1.38*** (0.15)	1.25*** (0.14)
Net Wage	-0.13 (0.12)	0.14 (0.30)	-0.08 (0.13)	0.14 (0.3)	-0.03 (0.13)	0.30 (0.31)	0.53* (0.3)	0.44 (0.30)
Labor Mar. Fd	1.8*** (0.28)	1.72** (0.86)	1.93*** (0.27)	1.75** (0.87)	1.93*** (0.24)	1.66* (0.89)	0.97 (0.93)	1.35 (0.94)
Distance	-0.48*** (0.05)	-0.7*** (0.2)	-0.46*** (0.05)	-0.71*** (0.21)	-0.43*** (0.04)	-0.74*** (0.21)	-0.61*** (0.22)	-0.74*** (0.21)
FDI Freedom	0.82*** (0.23)	1.48* (0.77)	0.96*** (0.23)	1.65** (0.77)	0.99*** (0.23)	2.02*** (0.77)	2.03*** (0.77)	2.07*** (0.78)
Regulatory Burd	0.39* (0.22)	1.86** (0.79)	0.07 (0.19)	1.53** (0.78)	-0.21 (0.18)	0.86 (0.76)	0.41 (0.74)	0.58 (0.75)
Trade Freedom	0.18 (0.69)	-1.18 (2.05)	0.13 (0.62)	-1.49 (2.07)	0.14 (0.54)	-1.74 (2.11)	-1.18 (2.12)	-1.76 (2.13)
Corruption	-1.93*** (0.26)	-4.26*** (0.68)	-1.86*** (0.29)	-4.56*** (0.7)	-1.54*** (0.31)	-4.49*** (0.75)	-3.79*** (0.69)	-3.92*** (0.7)
Exchange Rate	-0.37*** (0.04)	-0.36*** (0.1)	-0.37*** (0.04)	-0.32*** (0.10)	-0.39*** (0.04)	-0.29*** (0.10)	-0.3*** (0.10)	-0.27*** (0.10)
Corporate Tax	-0.74*** (0.19)	-2.10*** (0.49)	-0.31 (0.21)	-1.87*** (0.49)	0.11 (0.09)	-0.64** (0.27)	-4.01** (1.61)	-1.30 (1.18)
Sales Tax		-0.22 (0.14)		-0.25* (0.15)		-0.19 (0.15)	-0.25 (0.16)	-0.22 (0.17)
Labor Tax		0.58 (0.55)		0.43 (0.55)		0.04 (0.56)	0.45 (0.56)	0.25 (0.57)
Admin. Tax Burden		-0.25 (0.23)		-0.36 (0.22)		-0.53** (0.23)	-0.46** (0.23)	-0.51** (0.23)
#cba	8,892	8,892	8,892	8,892	8,892	8,892	8,892	8,892
#obs	160,056	160,056	160,056	160,056	160,056	160,056	160,056	160,056
lnL	-6,895	-330.0	-6,901	-331.7	-6,908	-336.2	-335.8	-338.3

Notes: *Coefficients have been calculated by maximum likelihood with a Tobit regression. The dependent variable is the logarithmically transformed value of cross-border acquisitions (this has been added with 1 to retain zero-valued observations) Hence, coefficient estimates reflect constant elasticities.* Fixed effects α_t for each year t are included. The data cover CBAs by US firms during the 1995 to 2005 period with 18 host. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function. Robust standard errors are reported in parantheses. Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Robustness Check: Lagged Number of Deals
(pages 17-18)

Table 6.B: Results for Statutory and Effective Tax Rates

Corporate Tax:	Statutory Rate		Effective Average Rate		Effective Marginal Rate	
	(1)	(2)	(3)	(4)	(5)	(6)
CBA_{t-1}	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Market Size	0.79***	0.81***	0.71***	0.76***	0.67***	0.80***
	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)
Net Wage	-0.17	-0.36*	-0.10	-0.38*	-0.06	-0.35
	(0.18)	(0.21)	(0.18)	(0.23)	(0.19)	(0.23)
Labor Market Fre.	1.48***	0.76**	1.50***	0.70*	1.45***	0.67*
	(0.31)	(0.36)	(0.31)	(0.39)	(0.31)	(0.35)
Distance	-0.40***	-0.31***	-0.37***	-0.31***	-0.35***	-0.32***
	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)
FDI Freedom	0.60**	-0.40	0.68***	0.56*	0.69***	0.64**
	(0.30)	(0.30)	(0.30)	(0.32)	(0.31)	(0.29)
Regulatory Burden	0.59**	0.04	0.29	-0.16	-0.08	-0.36
	(0.27)	(0.33)	(0.30)	(0.32)	(0.27)	(0.31)
Trade Freedom	0.18	0.07	0.13	-0.08	0.08	0.15
	(0.76)	(0.75)	(0.75)	(0.71)	(0.73)	(0.75)
Corruption	-1.79***	-1.29***	-1.68**	-1.30***	-1.45***	-1.15***
	(0.36)	(0.38)	(0.37)	(0.36)	(0.38)	(0.39)
Exchange Rate	-0.29***	-0.28***	-0.28***	-0.26***	-0.29***	-0.25***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Corporate Tax	-0.63***	-0.77***	-0.20	-0.49**	0.08	-0.07
	(0.23)	(0.24)	(0.26)	(0.23)	(0.12)	(0.12)
Sales Tax		-0.26***		-0.26***		-0.21***
		(0.05)		(0.05)		(0.05)
Labor Tax		0.48*		0.31		0.16
		(0.26)		(0.24)		(0.23)
Admin. Tax Burden		-0.31***		-0.39***		-0.43***
		(0.11)		(0.11)		(0.10)
#cba	8,272	8,272	8,272	8,272	8,272	8,272
#obs _{cl}	148,896	148,896	148,896	148,896	148,896	148,896
#obs _{pc}	180	180	180	180	180	180
lnL _{cl}	-18,583	-18,466	-18,604	-18,482	-18,605	-18,493
lnL _{pc}	-868.7	-751.9	-890.3	-767.9	-891.0	-778.7
H _{fe}	1,369	145.9	25.3	62.5	20.9	27.5

Notes: Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific fixed effects α_t yield identical coefficients. The data cover all CBAs by US firms during the 1996 to 2005 period (**the year 1995 drops out due to including CBA_{t-1}**) with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Table 7.B: Results accounting for International Tax Relief

	<u>Statuary</u>	<u>EATR</u>	<u>Statuary</u>	<u>EATR</u>
Corporate Tax	No	No	Yes	Yes
Tax Deferral	(1)	(2)	(3)	(4)
<i>CBA_{t-1}</i>	<i>0.003***</i>	<i>0.003***</i>	<i>0.003***</i>	<i>0.003***</i>
	<i>(0.001)</i>	<i>(0.001)</i>	<i>(0.001)</i>	<i>(0.001)</i>
Market Size	0.75***	0.72***	0.83***	0.74***
	(0.06)	(0.06)	(0.05)	(0.06)
Net Wage	-0.30	-0.36	-0.35	-0.33
	(0.23)	(0.24)	(0.23)	(0.23)
Labor Market Fd.	0.42	0.48	0.94	0.46
	(0.37)	(0.41)	(0.36)	(0.39)
Distance	-0.26***	-0.31***	-0.39***	-0.35***
	(0.07)	(0.07)	(0.07)	(0.06)
FDI Freedom	0.47	0.63**	0.91**	0.71**
	(0.29)	(0.30)	(0.29)	(0.30)
Regulatory Burden	-0.27	-0.33	-0.45	-0.28
	(0.32)	(0.31)	(0.31)	(0.30)
Trade Freedom	0.17	-0.06	0.25	0.09
	(0.78)	(0.75)	(0.75)	(0.76)
Corruption	-1.20***	-1.15***	-1.16***	-1.29***
	(0.38)	(0.38)	(0.38)	(0.40)
Exchange Rate	-0.26***	-0.24***	-0.29***	-0.22***
	(0.05)	(0.06)	(0.05)	(0.06)
Corporate Tax	-1.14**	-0.52	-0.70	-0.77
	(0.54)	(0.49)	(0.47)	(0.48)
Sales Tax	-0.27***	-0.26***	-0.11***	-0.16***
	(0.05)	(0.06)	(0.05)	(0.05)
Labor Tax	0.34	0.20	0.07	0.14
	(0.26)	(0.25)	(0.25)	(0.24)
Admin. Tax Bur.	-0.40***	-0.43***	-0.49***	-0.46***
	(0.11)	(0.11)	(0.11)	(0.11)
#cba	8,272	8,272	8,272	8,272
#obs _{cl}	148,896	148,896	148,896	148,896
#obs _{pc}	180	180	180	180
lnL _{cl}	-18,369	-18,374	-18,481	-18,482
lnL _{pc}	-745.7	-659.9	-814.9	-768.3.9
H _{fe}	197.0	58.6	44.8	83.8

Notes: Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific fixed effects α_t yield identical coefficients. The data cover all CBAs by US firms during the 1996 to 2005 period (*the year 1995 drops out due to including CBA_{t-1}*) with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Robustness Check: Double Tax Rates
(pages 17-18)

Table 7.C: Results accounting for International Tax Relief

Corporate Tax Tax Deferral:	Statutory no (1)	EATR no (2)	Statutory yes (3)	EATR yes (4)
Market Size	0.83*** (0.04)	0.85*** (0.05)	0.90*** (0.04)	0.94*** (0.05)
Net Wage	-0.41* (0.23)	-0.44* (0.23)	-0.32* (0.23)	-0.45* (0.24)
Labor Market Fd.	1.04*** (0.30)	0.97*** (0.35)	0.82*** (0.32)	0.52 (0.38)
Distance	-0.45*** (0.06)	-0.46*** (0.06)	-0.40*** (0.06)	-0.45*** (0.06)
FDI Freedom	0.99*** (0.28)	0.99*** (0.27)	0.77*** (0.28)	1.04*** (0.26)
Regulatory Burden	-0.61** (0.30)	-0.56* (0.31)	-0.60* (0.32)	-0.60** (0.30)
Trade Freedom	0.13 (0.71)	0.09 (0.69)	0.42 (0.71)	0.33 (0.71)
Corruption	-1.11*** (0.37)	-1.17*** (0.42)	-1.15*** (0.38)	-1.33*** (0.40)
Exchange Rate	-0.31*** (0.05)	-0.30*** (0.05)	-0.30*** (0.05)	-0.27*** (0.05)
Corporate Tax (only double tax)	0.001 (0.01)	-0.02 (0.03)	-0.09 (0.05)	-0.10* (0.05)
Sales Tax	-0.10** (0.05)	-0.12*** (0.05)	-0.11** (0.05)	-0.20*** (0.05)
Labor Tax	-0.05 (0.22)	-0.06 (0.23)	-0.24 (0.25)	0.22 (0.24)
Admin. Tax Bur.	-0.54*** (0.11)	-0.54*** (0.10)	-0.50*** (0.11)	-0.58*** (0.11)
#cba	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198
lnL _{cl}	-19,838	-19,934	-19,933	-19,931
lnL _{pc}	-904.4	-901.8	-972.0	-859.3
H _{fe}	328	17.7	148.6	193.9

Notes: Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{ijt} and year specific fixed effects α_t yield identical coefficients. The data cover all CBAs by US firms during the 1996 to 2005 period (*the year 1995 drops out due to including CBA_{F-1}*) with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Country Specific Effects
(footnote 16, page 18)

Note that all time constant variables drop out.

Table 6.D: Results for Statutory and Effective Tax Rates

Corporate Tax:	Statutory Rate		Effective Average Rate		Effective Marginal Rate	
	(1)	(2)	(3)	(4)	(5)	(6)
Market Size	0.97 (1.55)	1.03 (1.60)	0.82 (1.57)	0.81 (1.52)	0.60 (1.43)	0.56 (1.44)
Net Wage	0.08 (0.24)	0.06 (0.24)	0.08 (0.22)	0.06 (0.25)	0.07 (0.22)	0.06 (0.25)
FDI Freedom	-0.08 (0.48)	-0.11 (0.50)	-0.04 (0.48)	-0.05 (0.49)	-0.01 (0.48)	-0.01 (0.48)
Trade Freedom	0.19 (0.71)	0.18 (0.75)	0.16 (0.69)	0.14 (0.74)	0.15 (0.70)	0.12 (0.72)
Corruption	0.12 (0.54)	0.13 (0.57)	0.11 (0.56)	0.04 (0.56)	0.11 (0.53)	0.052 (0.57)
Exchange Rate	0.06 (1.27)	0.07 (1.28)	-0.02 (1.22)	0.06 (1.28)	0.01 (1.27)	0.07 (1.29)
Corporate Tax	-0.33 (0.61)	-0.41 (0.70)	-0.22 (0.59)	-0.27 (0.62)	-0.01 (0.18)	-0.02 (0.18)
Sales Tax		-0.04 (0.03)		-0.03 (0.03)		-0.02 (0.03)
Labor Tax		-0.03 (0.02)		-0.08 (0.29)		-0.11 (0.44)
#cba	8,892	8,892	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056	160,056	160,056
#obs _{pc}	198	198	198	198	198	198
lnL _{cl}	-19,678	-19,678	-19,677	-19,678	-19,679	-19,679
lnL _{pc}	-583.5	-583.0	-584.1	-583.6	-584.7	-584.3
H _{fe}	15.6	37.1	15.8	38.8	15.5	33.2

Notes Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{jt} and year specific fixed effects α_t yield identical coefficients. **All specification contain a country specific fixed effect. Variables without time variation have been dropped.** The data cover all CBAs by US firms during the 1995 to 2005 period with 18 host countries. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Note that all time constant variables drop out.

Table 7.D: Results accounting for International Tax Relief

	<u>Statuary</u>	<u>EATR</u>	<u>Statuary</u>	<u>EATR</u>
Tax Deferral	No	No	Yes	yes
	(1)	(2)	(3)	(4)
Market Size	0.75 (1.50)	0.35 (1.42)	0.95 (1.55)	0.50 (1.60)
Net Wage	0.06 (0.24)	0.08 (0.25)	0.05 (0.24)	0.06 (0.24)
FDI Freedom	-0.07 (0.52)	0.01 (0.48)	-0.10 (0.52)	-0.003 (0.48)
Trade Freedom	0.17 (0.72)	0.09 (0.73)	0.20 (0.72)	0.11 (0.73)
Corruption	0.07 (0.56)	0.09 (0.56)	0.12 (0.55)	0.08 (0.56)
Exchange Rate	0.19 (1.37)	0.10 (1.27)	0.27 (1.31)	0.06 (1.26)
Corporate Tax	-0.29 (0.74)	0.27 (0.60)	-0.41 (0.64)	0.05 (0.61)
Sales Tax	-0.02 (0.03)	0.01 (0.03)	-0.001 (0.06)	-0.01 (0.06)
Labor Tax	-0.05 (0.39)	-0.11 (0.45)	-0.02 (0.43)	-0.11 (0.42)
#cba	8,892	8,892	8,892	8,892
#obs _{cl}	160,056	160,056	160,056	160,056
#obs _{pc}	189	189	189	189
lnL _{cl}	-19,678	-19,678	-19,677	-19,679
lnL _{pc}	-583.7	-583.6	-646.4	-583.6
H _{fe}	30.4	33.4	32.5	33.4

Notes Coefficients have been calculated by maximum likelihood. A conditional logit model with dependent variable h_{ijt} and a Poisson count regression with dependent variable n_{ijt} and year specific fixed effects α_t yield identical coefficients. ***All specification contain a country specific fixed effect. Variables without time variation have been dropped.*** The data cover all CBAs by US firms during the 1995 to 2005 period with 18 host. Furthermore, #cba is the total number of deals, #obs is the number of observations, and lnL the value of the log likelihood function (for the conditional logit (cl) and Poisson count regression (pc)). H_{fe} is the Hausman test statistic between the random and fixed effects Poisson count regression. Standard errors reported in parantheses have been bootstrapped with 1'000 replications and 1'000 random draws of h_{ijt} . Coefficients are significant at the 10% level when labelled with *, at the 5% level when labelled with **, and at the 1% level when labelled with ***.

Robustness Check: Using the 10 percent benchmark for \bar{V} (Compare pages 18-19)

Table 9.F: Results accounting for International Tax Relief

FDI Strategy	Horizontal Cross-Border Acquisitions (with V = 10 percent)				Vertical Cross-Border Acquisitions (with V = 10 percent)			
	Statutory Tax Rate		Effective Average Tax Rate		Statutory Tax Rate		Effective Average Tax Rate	
Corporate Tax	No	Yes	No	Yes	No	Yes	No	Yes
Tax Credits	No	No	No	No	No	No	No	No
Tax Deferral	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Market Size	0.91*** (0.08)	0.86*** (0.07)	0.82*** (0.06)	0.85*** (0.07)	0.84*** (0.07)	0.82*** (0.06)	0.82*** (0.04)	0.75*** (0.04)
Net Wage	-0.31 (0.30)	-0.27 (0.34)	-0.29 (0.33)	-0.35 (0.32)	-0.37 (0.34)	-0.34 (0.33)	-0.13 (0.18)	-0.16 (0.17)
Labor Market Fd.	1.26*** (0.45)	0.90* (0.48)	1.07** (0.46)	1.22*** (0.44)	0.94* (0.52)	1.05** (0.49)	1.08*** (0.26)	1.16** (0.29)
Distance	-0.42*** (0.08)	-0.39*** (0.08)	-0.40*** (0.08)	-0.43*** (0.08)	-0.40*** (0.08)	-0.43*** (0.08)	-0.33*** (0.05)	-0.34*** (0.05)
FDI Freedom	0.63 (0.41)	0.78** (0.39)	0.88** (0.38)	0.83** (0.37)	0.92*** (0.37)	0.96*** (0.39)	0.57*** (0.24)	0.71*** (0.23)
Regulatory Bur.	-0.04 (0.46)	-0.47 (0.43)	-0.49 (0.44)	-0.30 (0.45)	-0.46 (0.43)	-0.51 (0.43)	-0.37 (0.29)	-0.60*** (0.24)
Trade Freedom	0.15 (1.01)	0.29 (0.99)	0.18 (1.05)	0.04 (1.05)	0.09 (1.03)	0.10 (1.02)	0.88 (0.71)	1.03 (0.68)
Corruption	-1.71*** (0.54)	-1.58*** (0.57)	-1.56*** (0.56)	-1.69*** (0.54)	-1.59*** (0.55)	-1.59*** (0.56)	-0.94*** (0.33)	-0.81** (0.35)
Exchange Rate	-0.39*** (0.07)	-0.37*** (0.08)	-0.37*** (0.08)	-0.37*** (0.08)	-0.35*** (0.08)	-0.36*** (0.08)	-0.30*** (0.04)	-0.29*** (0.05)
Corporate Tax	-0.79*** (0.31)	-1.19* (0.65)	-0.70 (0.62)	-0.44 (0.30)	-0.71 (0.66)	-0.47 (0.57)	-0.30 (0.19)	-0.42 (0.44)
Sales Tax	-0.15*** (0.06)	-0.16*** (0.07)	-0.11* (0.06)	-0.15*** (0.07)	-0.17** (0.09)	-0.13** (0.07)	-0.05 (0.04)	-0.02 (0.05)
Labor Tax	0.22 (0.25)	0.07 (0.32)	-0.03 (0.31)	-0.03 (0.32)	-0.05 (0.05)	-0.09 (0.31)	0.09 (0.21)	-0.10 (0.19)
Admin. Tax Bur.	-0.35*** (0.15)	-0.46*** (0.14)	-0.48*** (0.15)	-0.44*** (0.14)	-0.50*** (0.15)	-0.51*** (0.16)	-0.55*** (0.10)	-0.61*** (0.09)
#eba	3,344	3,344	3,344	3,344	3,344	3,344	771	771
#obs _d	60,129	60,129	60,129	60,129	60,129	60,129	13,878	13,878
#obs _{pe}	198	198	198	198	198	198	198	198
lnL _{cl}	-7,454	-7,466	-7,466	-7,465	-7,466	-7,468	-1,783	-1,783
lnL _{pc}	-604.8	-612.1	-616.9	-615.6	-538.5	-618.7	-546.7	-371.7
H _{fe}	144.4	64.3	4.60	1385	227	10.5	80.0	1040

Robustness Check: Using the 1 percent benchmark for \bar{v} (page 19)

Table 9.G: Results accounting for International Tax Relief

FDI Strategy	Horizontal Cross-Border Acquisitions (with $V = 1$ percent)						Vertical Cross-Border Acquisitions (with $V = 1$ percent)					
	Statutory Tax Rate			Effective Average Tax Rate			Statutory Tax Rate			Effective Average Tax Rate		
	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Corporate Tax	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Tax Credits	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Deferral	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Market Size	0.84*** (0.02)	0.78*** (0.02)	0.74*** (0.02)	0.80*** (0.02)	0.76*** (0.02)	0.74*** (0.02)	0.95*** (0.09)	0.89*** (0.07)	0.86*** (0.06)	0.91*** (0.08)	0.88*** (0.08)	0.87*** (0.07)
Net Wage	-0.29*** (0.11)	-0.29*** (0.13)	-0.32*** (0.12)	-0.32*** (0.12)	-0.33*** (0.12)	-0.31*** (0.12)	-0.34 (0.30)	-0.32 (0.31)	-0.33 (0.31)	-0.38 (0.30)	-0.39 (0.31)	-0.37 (0.31)
Labor Market Fd.	1.40*** (0.15)	1.22*** (0.16)	1.41*** (0.16)	1.38*** (0.15)	1.28*** (0.17)	1.40*** (0.16)	1.17*** (0.45)	0.91* (0.51)	1.02** (0.49)	1.15** (0.45)	0.93* (0.53)	0.98** (0.50)
Distance	-0.51*** (0.03)	-0.49*** (0.03)	-0.51*** (0.03)	-0.51*** (0.03)	-0.51*** (0.03)	-0.50*** (0.03)	-0.42*** (0.08)	-0.39*** (0.08)	-0.39*** (0.08)	-0.42*** (0.08)	-0.43*** (0.09)	-0.43*** (0.08)
FDI Freedom	0.86*** (0.13)	1.01** (0.13)	1.06** (0.13)	1.00** (0.13)	1.07*** (0.13)	1.05** (0.14)	0.70* (0.42)	0.86** (0.39)	0.94*** (0.39)	0.88** (0.40)	0.97*** (0.38)	1.03*** (0.41)
Regulatory Bur.	0.07 (0.16)	-0.25* (0.14)	-0.32** (0.14)	-0.11 (0.16)	-0.27* (0.14)	-0.31** (0.14)	-0.20 (0.46)	-0.62 (0.43)	-0.63 (0.45)	-0.42 (0.46)	-0.60 (0.44)	-0.63*** (0.42)
Trade Freedom	0.19 (0.32)	0.22 (0.32)	0.08 (0.32)	0.13 (0.33)	0.13 (0.32)	0.10 (0.32)	0.16 (1.03)	-0.08 (1.04)	-0.13 (1.04)	-0.25 (1.05)	-0.23 (1.00)	-0.19 (1.07)
Corruption	-2.06*** (0.18)	-1.95*** (0.19)	-1.89*** (0.19)	-2.08*** (0.18)	-1.95*** (0.19)	-1.88*** (0.20)	-1.53*** (0.56)	-1.37*** (0.57)	-1.37*** (0.59)	-1.52*** (0.59)	-1.37*** (0.58)	-1.42*** (0.63)
Exchange Rate	-0.41*** (0.03)	-0.40*** (0.03)	-0.41*** (0.03)	-0.40*** (0.03)	-0.40*** (0.03)	-0.41*** (0.03)	-0.32*** (0.07)	-0.30*** (0.07)	-0.30*** (0.07)	-0.30*** (0.07)	-0.29*** (0.08)	-0.29*** (0.08)
Corporate Tax	-0.60*** (0.11)	-0.58*** (0.22)	-0.17 (0.22)	-0.36*** (0.10)	-0.26 (0.23)	0.08 (0.19)	-0.76*** (0.31)	-0.90 (0.65)	-0.67 (0.62)	-0.47 (0.32)	-0.57 (0.68)	-0.51 (0.57)
Sales Tax	-0.20*** (0.02)	-0.20*** (0.03)	-0.18*** (0.02)	-0.20** (0.02)	-0.20*** (0.02)	-0.18*** (0.02)	-0.11 (0.07)	-0.10 (0.08)	-0.06 (0.07)	-0.10 (0.08)	-0.11 (0.09)	-0.09 (0.08)
Labor Tax	-0.18* (0.10)	-0.33 (0.34)	-0.43*** (0.09)	-0.31 (0.34)	-0.39 (0.30)	-0.42*** (0.09)	-0.27 (0.35)	0.10 (0.33)	0.03 (0.33)	0.10 (0.33)	-0.001 (0.33)	-0.03 (0.32)
Admin. Tax Bur.	-0.22*** (0.05)	-0.30*** (0.05)	-0.31*** (0.05)	-0.27*** (0.05)	-0.31*** (0.05)	-0.30*** (0.05)	-0.37*** (0.15)	-0.48*** (0.15)	-0.49*** (0.15)	-0.45*** (0.15)	-0.51*** (0.15)	-0.52*** (0.15)
#eba	555	555	555	555	555	555	5,192	5,192	5,192	5,192	5,192	5,192
#obs _d	4,290	4,290	4,290	4,290	4,290	4,290	93,456	93,456	93,456	93,456	93,456	93,456
#obs _{pc}	198	198	198	198	198	198	198	198	198	198	198	198
lnL _{cl}	-1,237	-1,239	-1,239	-1,238	-1,238.6	-1,239	-11,593	-11,613	-11,610	-11,607	-11,612	-11,612
lnL _{pc}	-309.9	-311.1	-311.4	-310.9	-311.3	-470.3	-680.9	-695.8	-698.2	-694.6	-700.1	-700.1
H _{fe}	7.78	3.97	0.91	25.7	5.66	0.81	2255	14.9	1.00	148.6	69.1	3.63

Test Statistics about Independence from Irrelevant Alternatives (IIA)
(pages 19-20)

Excluded Country	Table 6						Table 7				Table 8											
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	0.11	0.08	0.14	0.08	0.08	0.08	0.08	0.07	0.08	0.08	1.10	1.10	1.21	1.11	0.99	1.31	0.23	0.22	0.26	0.24	0.84	0.26
Austria	0.09	0.06	0.09	0.06	0.06	0.05	0.07	0.05	0.06	0.06	0.68	0.75	0.56	0.55	0.42	0.48	0.23	0.18	0.17	0.23	0.98	0.17
Belgium	0.10	0.06	0.09	0.06	0.07	0.06	0.06	0.08	0.06	0.05	0.74	0.69	0.63	0.59	0.92	0.56	0.27	0.17	0.19	0.23	2.63	0.22
Canada	0.19	0.10	0.18	0.08	0.12	0.07	0.14	0.06	0.09	0.07	0.95	1.19	0.65	0.63	0.39	0.38	0.27	0.24	0.17	0.27	0.42	0.19
Finland	0.12	0.06	0.08	0.05	0.08	0.05	0.07	0.05	0.06	0.06	0.79	0.86	0.66	0.62	0.55	0.57	0.18	0.13	0.13	0.17	0.84	0.13
France	0.15	0.07	0.18	0.07	0.17	0.06	0.13	0.05	0.10	0.09	0.61	2.83	2.51	0.45	0.39	0.76	0.26	0.28	0.26	0.27	0.99	0.22
Germany	0.17	0.09	0.15	0.09	0.17	0.10	1.17	0.10	1.17	0.11	0.75	9.02	5.63	0.54	1.08	0.55	0.22	2.72	2.88	0.20	1.92	0.23
Greece	0.10	0.05	0.05	0.04	0.05	0.03	0.05	0.04	0.04	0.05	0.58	0.58	0.43	0.43	0.38	0.37	0.19	0.12	0.12	0.17	0.91	0.13
Ireland	0.16	0.12	0.10	0.11	0.09	0.08	0.12	0.09	0.10	0.12	1.17	0.96	0.73	0.88	0.80	0.69	0.32	0.35	0.32	0.36	0.87	0.34
Italy	0.10	0.06	0.07	0.06	0.06	0.05	0.06	0.04	0.05	0.07	0.65	0.67	0.48	0.60	0.49	0.66	0.25	0.17	0.18	0.24	0.97	0.18
Japan	0.07	0.11	0.08	0.07	0.08	0.06	0.06	0.08	0.06	0.06	1.25	0.69	0.65	0.72	0.82	0.86	0.35	0.16	0.16	0.23	1.61	0.23
Netherlands	0.11	0.05	0.06	0.05	0.06	0.05	0.04	0.04	0.04	0.05	0.66	0.59	0.48	0.55	0.55	0.44	0.16	0.12	0.11	0.15	1.10	0.11
Norway	0.10	0.06	0.06	0.06	0.06	0.05	0.06	0.05	0.05	0.06	0.74	0.62	0.55	0.63	0.45	0.51	0.22	0.16	0.16	0.22	1.23	0.17
Portugal	0.09	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.63	0.67	0.54	0.52	0.45	0.49	0.18	0.14	0.14	0.17	0.82	0.15
Spain	0.09	0.06	0.06	0.05	0.06	0.05	0.07	0.05	0.05	0.07	0.76	0.91	0.62	0.62	0.49	0.59	0.24	0.16	0.17	0.23	1.68	0.18
Sweden	0.07	0.05	0.06	0.04	0.05	0.03	0.04	0.05	0.03	0.03	0.58	0.42	0.38	0.41	0.65	0.37	0.19	0.12	0.13	0.16	2.17	0.16
Switzerland	0.10	0.04	0.07	0.05	0.07	0.05	0.05	0.06	0.05	0.07	0.50	0.69	0.51	0.49	0.57	0.57	0.20	0.18	0.19	0.22	0.87	0.21
United Kingdom	0.06	0.07	0.13	0.06	0.18	0.05	0.08	0.05	0.04	0.05	0.45	0.53	0.39	0.33	0.35	0.32	0.26	0.15	0.15	0.22	1.38	0.15

Note: This table shows the IIA test statistics when excluding host countries from the choice set of the conditional logit model specified in the far left column. The test statistic follows a chi-squared distribution with 13 degrees of freedom and a critical value of 22.36. The null hypothesis is that the conditional logit model is independent from irrelevant alternatives.

END OF APPENDIX.